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Primary Carcinoma of the Fallopian Tubes*

CHARLES H. GOODRICH, M. D., F. A. C. S.
Brooklyn, New York.

In June, 1920, Mrs. C. M., age 44, consulted me for relief of painful knee joints. A careful, thorough examination demonstrated a bilateral subacute arthritis of both knees, with but little fluid in the joints. However, there was considerable thickening of the peri-arthritic soft parts. Upon questioning, it was found that patient occasionally had a slight gush of thin fluid from the vagina, having an odor very like that of urine. This might occur once in seven to ten days, and occasionally the discharge was tinged with blood.

Upon investigation no fault could be found with the teeth, the sinuses, tonsils, the endocardium, the lungs or pleura, and aside from a very thick layer of subcutaneous fat, no abnormality was demonstrated upon abdominal examination. There were no subjective symptoms referable to the pelvic contents, but pelvic examination revealed an exquisitely tender left fallopian tube, and she was advised that here might be a focal point of infection, capable of and possibly actually producing her arthritis, and excision of the left appendages was advised.

She became temporarily relieved of the pain in her knees by counter irritation and rest and we lost sight of her for nearly a year.

On June 25, 1921, she appeared for re-examination, complaining not only of more pain in the knee joints, but also of frequent cramp-like pains in the left lower quadrant of the abdomen. Examination revealed much the same condition as had been present one year before, except for a more well defined and increased enlargement of the left fallopian tube, which was even more tender than before. Operation was urgently recommended.

This patient's family history showed that her mother had died of cancer of uterus at the age of 52. Cause of her father's death at 72 was unknown. One sister died of acute appendicitis almost immediately after operation. Her mother had some rheumatism.

The previous history of this patient catalogues: Scarlet fever and diphtheria at 3 years of age, malaria at 16, typhoid fever at 17, gastritis caused by constipation during her young adult life. At 21 years of age this patient was said to have had retroversion of the uterus, for which she was curetted.

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*Read before the Society of Ex-Internes of the M. E. Hospital.

Her menstrual record shows 28-day type, always regular, no symptoms except nervous irritability on the day preceding the flow. Amount always scanty. Duration two or three days. Irregularity started at the age of 39, when patient failed to menstruate for seven months. Since this time periods have become less and less frequent. She has no children. She has had three miscarriages, at two months, at six weeks and seven weeks, respectively.

This patient was admitted to our service at the Methodist Episcopal Hospital, July 18, 1921. Provisional diagnosis: Tubo-ovarian disease caused by bacterial invasion, probably of long duration and dating from one of her miscarriages. The enlarged left tube about four times normal size, with its ovary, was removed intact and the stump cauterized close to the uterus. The right tube was much smaller, but somewhat thickened, and in view of her already advanced menopause, it was thought wise to remove this. Appendix, which lay entirely behind the cecum, and retroperitoneal, was not disturbed.

Upon opening the left tube it was found to contain a sponge-like organized soft material, resembling somewhat the structure of a sponge, but not quite the characteristic appearance of papilloma. It suggested numerous disorderly lamellae of organized blood clot.

Dr. E. B. Smith, in his pathological report, gives the following description:

"One tube is 12 cm. long and 6 cm. in diameter. It has been opened longitudinally. Distending the lumen of the tube is a soft, friable, cauliflower mass, having the appearance of a carcinoma.

The other tube is much smaller and there is no evidence of new growth in it.

The ovary measures 3 x 2 x 1 cm., is dense, sclerotic, and contains several small cysts.

Microscopic Examination: Sections show a diffuse carcinoma of the fallopian tube. Most of the original cylindrical epithelium has disappeared, though an occasional patch can be found showing two or more layers of cylindrical cells. The neoplasm is a diffuse epithelial growth. In the absence of proof of a primary focus in some other organ, it is proper to call this a primary carcinoma of the tube.

Sections of the ovary show no evidence of carcinoma."

This patient made an uneventful recovery and when last examined on September 19, 1921, complained only of accentuated symptoms of the menopause and general nervousness. Her arthritis is somewhat improved. There are no pelvic symptoms, and pelvic examination reveals no masses and no tenderness.

Orthmann[1] published the first case of primary carcinoma of fallopian tubes in 1888. Previous to this time such a neoplasm in this location was considered secondary to carcinoma of the uterus, ovary or some neighboring structure. Within recent years numerous studies have been made, and the literature contains reports of 160 cases. A few of these are doubtful, because microscopic confirmation is lacking. The various articles, references to which will be appended, all express such a definite opinion regarding the actual occurrence of primary carcinoma of the fallopian tube that there can no longer be any doubt in the minds of any of us concerning its authenticity. The importance of offering this subject for consideration is apparent when it is noted that the great majority of the cases thus far reported sought surgical relief when the disease was so advanced as to preclude possibility of cure.

In this communication I desire especially to avoid prolix accounts, which may readily be found in these references, and yet it seems advisable to emphasize certain points in the pathology, symptomatology, diagnosis and treatment, of which a clear view may assist us in establishing greater efficiency in the management of such cases.

Much discussion has recently arisen regarding the theory of inflammation as the primary cause of such a carcinoma. Several authorities have held that these growths represent a carcinomatous change in the papilloma of the tube, which in turn had its origin in a salpingitis of infective origin.

Ewing[2] states, "In its etiology the influence of chronic inflammation is of first importance." Abnormalities in the location or structure of the tubes may be predisposing factors.

Cases have been described as arising in a tube previously the site of an ectopic gestation.

In Vest's[3] study of this subject, the majority of women having this disease had become pregnant. In these it is safe to presume the tubes were not involved in inflammatory disease. He also states that "In 19,000 patients who had been treated in the wards of Johns Hopkins Hospital, and in whose cases specimens from every piece of tissue removed have been examined microscopically, a very large proportion showed inflammatory changes in the tubes, and yet there were but four of primary carcinoma. On the other hand, there have been a considerable number of cases reported in which there were signs of definitely well-established chronic inflammation, the successor of an acute process, found in the presence of primary carcinoma, either in the involved tube or in the tube of the other side, or in both.

Age: Over 50 per cent of the cases of carcinoma of the fallopian tube have occurred in women between the ages of 40 and 50, a larger number of the second half of this decade than the first half. About one-half as many cases have occurred between 50 and 60, and about one-quarter as many between 30 and 40.

Right and left tubes are involved with equal frequency. Both tubes are affected in between 25 and 30 per cent of the cases reported.

Of the *pathological findings* our case represents characteristic features of the early process of papillary carcinoma. The appearance in the majority of cases resembles somewhat the papilloma, and wherever this is found, suspicion should arise.

These growths usually arise in the middle and outer third of the tube. The uterine end is usually free. In size they vary. Reported cases have shown extreme diameters of .5 cm. and 22 cm., the proportions of the French pea of the elite restaurant and the head of a sturdy youth of 15 years.

The microscopic picture of the early lesion is that of "numerous low papillary outgrowths of the tubal folds covered with a single layer of cuboidal cells and resembling ovarian papilloma." (Ewing.[3]) In some cases this papillary arrangement persists, whereas "others exhibit an alveolar structure, probably from fusion of adjacent papillae, and resemble uterine adeno carcinoma."

Carcinoma of the tubes is a common extension from ovary and uterus.

About two-thirds of the reported cases showed recurrences in the first year. Twenty-five per cent of these gave symptoms or signs within three months. Another 25 per cent between the third and sixth month and about one-half between the sixth and twelfth month. Of 132 cases collected by Vest, four were living and well after five years. Five patients were well after three years and four after two years.

In regard to the *symptoms:* our studies of this subject would lead me to conclude that, First: any case of chronic enlarged and thickened tender fallopian tubes after 35 should be considered a possible candidate for this classification. Second: the history of the watery discharge, especially if intermittent and occasionally tinged with blood, should, in the presence of adnexal thickening, be considered a possible index of tubal carcinoma. It will be recalled that my patient described this discharge as having an urinous odor. In Englington's[12] case this discharge had been noticed for 13 years, and it is extremely doubtful as to whether carcinoma had existed even in its most benign state during all this time. Most of these cases have pain somewhere in the lower quadrants of the abdomen, generally corresponding with the side of primary involvement.

It will be noted in the present case *pain* had appeared very recently, within a few weeks of the operation. This pain is unquestionably absent until the growth has so advanced as to produce tension of the tubal coats or pressure on surrounding structures, or extends to surrounding structures as a papillary carcinoma is wont to. Emaciation, cachexia, ascites and painful urination and defecation are all late symptoms.

The physical signs of these tumors vary considerably with the consistency of the growth, the state in which it comes under observation and the location of the tube when it became involved. Some growths have been so tense and indurated as to cause a diagnosis of fibro myoma of the uterus to be made. Some seem semi-fluctuating; some give the sense of fluid contents.

Primary carcinoma of the fallopian tube may exist in the same pelvis *with other lesions.* Operation may be undertaken to eliminate these other lesions prominent in the objective findings, whereas the subjective symptoms complained of may be due to the tubal growth. This, I think, is a fact worthy of constant remembrance.

The possibility of ovarian cysts and malignancy of the tubes coexisting must be borne in mind. Several cases of this pathological combination are on record.

In Drutman's[4] case a diagnosis of carcinoma of fundus uteri was made, but only myomata found within this organ, whereas there was carcinoma of the right tube the size of a pea.

In Lipschitz's[5] case there was an interstitial myoma uteri, as well as an alveolar carcinoma of right tube, which also contained tubercular inflammatory tissue. Here the microscopic picture suggested the probability that carcinoma had developed upon the base of an old tuberculosis.

Robinson's[6] case, in which a vaginal hysterectomy was done for prolapse of uterus, was rich in pathology. There were found an interstitial fibro-myoma of uterus, a cyst of right broad ligament, and bilateral chronic salpingitis with adeno-carsinomatous degeneration.

The *pre-operative diagnosis* of these cases depends upon the rightful interpretation of the scanty and not characteristic symptoms (pain and watery uterine discharge) coexisting with a palpably enlarged tube, or in advanced cases, a mass in either fornix or the cul-de-sac of Douglas. I believe that the intermittent character of the watery discharge is the most valuable point directing attention to the tube as the possible seat of involvement.

Curettings of the uterus are usually negative in these cases, but in Drutman's[4] case (above mentioned) a microscopic examination of material thus removed led to diagnosis of carcinoma uteri, when the malignancy was in the right tube.

In many instances, as in the writer's case, the diagnosis has been made only when the affected tube was opened and its contents examined microscopically. Wherefore it is wise to always subject excised tubes to a micrscopic investigation while the abdomen is yet open, and when in doubt an immediate diagnosis by the microscope should be sought. Thus only can a patient be assured of a surgical procedure of required completeness.

Treatment: Removal of the entire uterus, both tubes and ovaries, and as much of the broad ligaments as can reasonably be excised, is the accepted surgical indication.

The lymphatics of the tube and the upper half of the broad ligament course outward from the uterus in two groups between the layers of the broad ligament. "In the infundibulo-pelvic ligament they follow the course of the ovarian vessels and drain into the lumbar glands of the same side." (Poirier.[7])

Thus the lymphatic current is outward, away from uterus. This undoubtedly explains why a number of satisfactory results have been obtained when only salpingo-oophoretomy was done. Weisinger's[8] Case 1, aged 51 at operation, was alive and well after 13 years, and only one tube had been excised. Fonyo's[9] Case No. 2 was well three years after right salpingo-oophorectomy, and Schenck's[13] three years after excision of the left tube and ovary. Bilateral salpingectomy was done in Walter Tate's[10] case and the patient was well after 27 months. Weisinger's[8] Case No. 3 was well three years after the same procedure.

Nevertheless, we must deem the complete procedure ideal, even though we doubt if the lymphatic current can flow backwards. For the bathing of the uterine mucosa in the secretion, or excretion, of carcinoma from the fallopian tube may cause implantation. And how can we establish the innocence of the uterus without hysterectomy or hysterotomy? And hysterotomy is hardly a justifiable procedure in the suspected presence of carcinoma, especially of the papillary type.

There is nothing in the literature to lead us to any conclusion concerning the advisability of using radium or X-ray as post-operative treatment.

In summarizing, the following points are emphasized:

1. Let us remember this lesion as a possibility, for "In the beginning every malignant growth is a local process."
2. Intermittent watery or slightly bloodstained discharge should demand careful examination of the adnexa as well as uterus.
3. The removal of all definitely inflamed tubes, including all tuberculous tubes, is warrantable prophylaxis.

4. All removed tubes should be examined before the abdomen is closed.

5. When carcinoma is demonstrated, the complete operation should be performed.

6. The numerous accidental discoveries of primary carcinoma of the fallopian tubes afford an important argument in favor of abdominal incision. Vaginal attacks upon the uterus and appendages are applicable in but few cases when the indications are definite and when complications can be ruled out with certainty.

. . . .

A number of other rare forms of tumor of fallopian tube have been recorded, notably chorio epithelioma malignum[11] of deciduomatous origin, teratoid chondrosarcocarcinoma,[2] sarcoma and myxosarcoma.[5]

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Acute Ear Infections*

John M. Taylor, M. D.

Brooklyn, New York.

An article by Newhart in the August issue of the Laryngoscope contains this statement: "It is conservatively estimated that there are in the United States no less than 3,000,000 individuals with hearing so impaired as to be a noticeable handicap in their social intercourse and in their economic efficiency. Medical inspection in our public schools has disclosed that from 2 to 6 per cent of school children have discharging ears. How many deaths occur annually in our own country from neglected middle-ear suppuration we have no means of determining, but the undisputed statement of Prof. Koerner that 4 per cent of all deaths registered in Prussia among persons under the age of 30 result from ear disease, is most significant."

If this statement is correct, no excuse should be necessary for presenting for discussion before this society some phase of the subject of ear infections; for the treatment of these infections in their acute stages is almost always in the hands of the general practitioner. Theirs is, in general, both the opportunity for the prevention of many of these infections and the responsibility for their proper management when they occur. I shall not attempt to discuss the subject of the prevention of these infections, although it is of the greatest importance and value. Nor shall I undertake to discuss the treatment of those great masses of people suffering from the end results of acute ear infections, chronic suppuration and deafness, but shall try to place before you, from the otologist's point of view, some of the principles that should serve as guides in the treatment of acute suppuration in the temporal bone.

The original title selected for this paper was "The Diagnosis of Acute Mastoiditis." Maturer reflection, however, has convinced the author that such a discussion is at best of academic interest only. To make a differential diagnosis between suppuration within the temporal bone and inflammatory conditions outside of it is not difficult. To try to draw a fine line of demarcation between an acute otitis media and an acute mastoiditis is not only impractical and impossible, but also unnecessary. There is no sharp anatomical dividing line between the middle ear cavity and the mastoid cells. Such eminent authorities as Politzer and Bezold maintain that, owing to its continuity with the of the tympanum, the mucous membrane of the antrum and the mastoid cells necessarily participate in every middle ear inflammation. An X-ray plate of any acute purulent ear infection of several days' duration will demonstrate cloudiness of the mastoid cells indicating their involvement in the process and a certain amount of bony tenderness on pressure is often present in cases that we are accustomed to consider clinically as otitis media rather than mastoiditis. I may add that suppuration in the mastoid often clears up spontaneously, just as it does in the middle ear cavity.

---

*Read before the Society of Ex-Internes of the M. E. Hospital.

So, for practical purposes, instead of trying to draw fine distinctions in terminology, we may profitably take the viewpoint of the surgeon who is confronted with an acute suppuration in the temporal bone and try to lay down the principles which should guide him in its treatment, make clear the pathological condition that is present, the structures that are involved or in danger of becoming so, and point out those symptoms and physical signs that should furnish the indications for operative intervention with a view to promptly removing the focus of suppuration, preserving intact the delicate structures within this bone and preventing the development of serious or fatal complications. The principles involved are the same that guide the surgeon in suppurative conditions of other bones of the body. Their application, however, is rendered somewhat obscure and a little difficult to appreciate by reason of the complicated anatomical structure of this little field.

A clear appreciation of the anatomy of the temporal bone is essential not only for the safety that comes from skill and boldness in operating, but it also enables the surgeon to forecast the paths along which infection may spread through the bone. I have no intention of giving a detailed account of the anatomy of this bone, but desire to call to mind certain points in its structure that are of importance in forming a concept of the pathological processes that may be taking place within it during the course of an infection. In no shorter nor surer way can one deduce principles for surgical guidance.

In the adult bone the external surface or cortex is so thick that pus rarely finds an exit through it to the surface of the skull. In childhood, however, suppuration in the interior of the bone may perforate and the case may first present itself to the surgeon with a retroauricular abscess that may dissect under the periosteum well forward in the temporal region to the limits of attachment of the aponeurosis. The deep cervical fascia is attached to the mastoid process, so that, if pus escapes through a perforation underneath this fascia, it may be evidenced by the appearance of a deep abscess in the neck.

The interior of the temporal bone contains a complicated system of cavities lined with a mucous membrane, continuous throughout its extent and continuous with that of the pharnyx. The mucous-lined labarynth is in intimate contact with the organ of hearing and that pertaining to equilibration. It is separated by a thin plate of bone from the cerebrum and the cerebellum. This little pyramid of bone is also traversed by, grooved for or in contact with the internal cartoid artery and six of the twelve cranial nerves and is in close contact with the lateral, sigmoid, petrosal and cavernous sinuses, as well as the bulb of the internal jugular vein. The fact that a suppurative inflammation may seriously involve any of these structures gives to this study its greatest interest and importance.

An intact ear drum prevents the entrance of infection from the ear canal. We may omit from our consideration at the present time the comparatively rare instances in which there is a direct invasion by a blood-stream infection. The vast majority of infections involving the temporal bone originate in the naso-pharnyx and travel by direct continuity along the eustachian tube to the middle ear. Such an infection causes congestion and swelling of the mucous membrane and an exudation of fibrin, serum and later of pus that can not drain out through the swollen, occluded tube, whose opening, by the way, is situated nearer the roof than the floor of the middle-ear cavity. This results in an accumulation of fluid that causes the ear drum to bulge outward and is accompanied by severe pain, deafness and tinnitus. The mucous membrane lining the middle-ear cavity is reflected over the ossicles, over which it is draped in folds. The congestion and swelling of these folds and the deposit of fibrin between them in the attic of the middle ear tends to limit the spread of infection. Under such favorable conditions, if prompt relief of tension is afforded by the subsidence of the occluding swelling of the eustachian tube, by the spontaneous rupture of the drum membrane or by its early incision and drainage by the surgeon, there is prompt resolution and return to normal in a few days, often within a few hours. While it may subside spontaneously and drain itself through the eustachian tube, the application of sound surgical principles forces the conviction that, if there is a fluid exudate in the middle ear under tension, as evidenced by a bulging ear drum, the safest measure for preventing its further extension is prompt, free incision of the tympanic membrane. The patient is given the best chance to escape suppuration and its attendant evils when a means of escape for this inflammatory exudate has been provided. A policy of waiting at this opportune time allows the drum to become damaged to a much greater extent than it would be by a surgical incision, condemns the patient to unnecessary suffering and exposes him to the dangers incident to the further spread of the infection, loss of hearing, mastoid suppuration and intracranial complications. Prof. Korner, quoted by Ballance, says: "Of the hundreds of cases in which I have been able to incise the tympanic membrane on the first or second day of the disease, not a single one has gone on to bone disease."

The vast majority of ear infections are not seen by the otologist at this early stage when his surgical intervention can be most effective. His attention is most often called to them when they have passed the barriers mentioned and reached the attic of the middle ear. This space is directly continuous by a free opening with a comparatively large cavity in the temporal bone, called the antrum, into which open the ducts from each one of the many cells that fill the mastoid process and some other cells, too, that are in the squamous and petrous portions of the bone. When the infection has reached this point, it is probably true, as has been pointed out previously, that at least some of these cells participate in the infection. Such an infection differs from an osteo-myelitis in other bones by reason of the fact that these cells are lined with a mucous membrane, just as are the accessory sinuses of the nose, a membrane that is capable of resisting and taking care of a certain amount of infection without being destroyed and thereby protecting the bony structure underneath. If the infection is not too virulent and if the bony walls of these cells are thick and well supplied with blood vessels, a free incision in the tympanic membrane will drain the antrum and such accessory cells as are involved, as well as the middle ear cavity. Resolution will not be as rapid as when this procedure is resorted to early, but it is often entirely successful. If, however, the infection is virulent and drainage insufficient, and especially if the mastoid cells are large, with their bony walls thin and poorly supplied with blood vessels, there will result either a prolonged suppuration, with injury to the delicate structures in the middle ear and permanently impaired hearing or destruction of the mucous lining of the mastoid cells and encroachment of the infection slowly or rapidly by destruction of bone until it reaches the meinges, the great venous sinuses of the brain, or until the pus finds an exit externally through the cortex.

It would not be pertinent to describe the varied clinical courses that such an infection might follow with its various complications. It may be useful, however, to simply enumerate some of the more common complications and sequellae, for the purpose of emphasizing the importance of giving serious attention to all acute ear infections and as a basis for the further consideration of the proper methods of treatment to prevent their development.

There are two complications that may happen at any time in the course of acute suppuration in the temporal bone, just as they may occur during the course of a suppurating focus on the back of the neck or on the lip. These are septicaemia and meningitis. We are accustomed to think of otitic meningitis as occurring as a late complication after destruction of the bony barriers between the ear and the meninges. It may occur very early, may even be coincident with the onset of the ottis in its development and may be of the serous type or of the acute purulent, fulminating type.

Thrombosis of the great venous trunks that groove the temporal bone is by no means infrequent and is a serious and often fatal complication. The sigmoid sinus and the jugular bulb are the most frequent sites for the development of a thrombus, the petrosal and cavernous sinuses less frequently. Such a condition may develop early in the disease on account of the, at times, close proximity of the jugular bulb to the mucosa of the middle ear. More frequently it indicates a destructive inflammation of the mastoid process with necrosis of the bone in contact with the lateral and sigmoid sinuses.

The nerves most frequently involved are the facial and the abducens. The facial nerve as it crosses the tympanum is normally enclosed in a covering of dense, hard bone, but at times this shows dehiscences, and a facial paralysis may be one of the early symptoms of an otitis media. The sixth nerve courses across the tip of the petrous portion of the temporal bone, so that an internal squint, developing in the course of a suppuration in this bone, is significant of its extensive involvement.

Abscess development is a common, well-understood phenomenon of mastoid suppuration, presenting at one time superficially behind the pinna, at another deep in the neck and not infrequently between the bone and the dura.

These are the principal complications of acute suppurative conditions in the temporal bone. Nevertheless, that which surpasses all these complications put together in importance is the fact that, after the acute symptoms have subsided in these cases, there is a large percentage discharged from observation with permanently impaired hearing, damaged ear drums and a chronic focus of suppuration in the middle ear or the mastoid, continuously or intermittently discharging pus from the meatus and subjecting the patient at any time not only to all the complications above mentioned, but to others also, including brain abscess and labarynthitis. It is this great group that makes up that grand total of three millions of our own population, mentioned at the outset of this discussion, who are handicapped materially in their social intercourse and in their economic efficiency.

The question naturally arises as to whether this is the best end result that surgery has to offer in the treatment of these acute infections. Is there no other surgical measure of relief that can be used to prevent these serious complications and, more important still, prevent those disabling and dangerous sequellae, deafness and chronic suppuration?

It is in this connection that I wish to present the indications for what is called the simple mastoid operation. It would constitute an interesting essay to tell the story of the historical development of this operation. It was first successfully performed, as far as historical records show, by a French surgeon, experienced in general surgery, Jean Louis Petit. His appreciation of the pathological conditions constituting the dangers of these infections and his advocacy of operation on true surgical principles is as remarkable as his successful application of them. I quote from his observations made 170 years ago: "These abscesses may persist for a long time before reaching a stage at which they cause death; but from the very first days of their formation they ought to be opened and we ought not to wait until they have destroyed the bone, for the patient is always in danger, not only because of the pus which does not escape, but because of other accidents which may supervene and render the disease infinitely complicated and fatal."

Improvements in the technique of this operation have kept pace with the progress of science, and as now performed it consists in the entire, methodical exenteration of the cells of the mastoid, the removal of all diseased bone and the direct free drainage of the middle ear cavity externally. The anatomy is so well understood that it may be performed rapidly without danger to the patient or to the delicate structures in the temporal bone. Performed in cases in which there have not developed intra-cranial complications, nor septic infection from thrombus formation, these is a rapid subsidence of symptoms and prompt disappearance of all suppuration. The patients are out of bed in a few days. On the average the ear discharge has ceased and the mastoid wound healed within three weeks. Under such circumstances the scar is linear and inconspicuous.

There are certain indications for this operation in acute cases that are self-evident from a study of the pathology of this disease and that are well recognized and understood by all practitioners.

Symptoms indicating meningeal irritation, such as drowsiness, rapid pulse and high temperature, not accounted for by some infectious disease of which the otitis may be a complication, demand at once the best possible drainage that may be secured by this means.

Symptoms suggesting sinus thrombosis, chills and a temperature with wide excursions require not only a thorough mastoid operation, but also the uncovering and examination of the sigmoid sinus and often the removal of the thrombus and ligation of the jugular vein as well.

External abscess, associated with an acute ear infection, whether it points behind and around the pinna or spreads down into the neck is another positive indication for this operation. The fact that such an abscess may find its way to the surface through the thick cortex of the bone without causing severe pain nor constitutional symptoms is significant of the ease with which suppuration may equally well insidiously progress unobserved toward the cranial cavity.

It is not so well understood that it is not over the mastoid surface that signs of periostitis have from the first a serious significance. This is often first evident in the upper posterior wall of the bony meatus. The so-called sagging of the posterior upper wall is the result of periostitis in this region, which results from pus under pressure in the antrum. It is an extremely important indication to afford free external drainage by the mastoid route.

If facial paralysis occurs in the course of an actue otitis, it is an indication for immediate operation.

There is a group of fulminating cases of acute otitis, difficult to define exactly, in which there is a rapid spread of the infection to the mastoid cells, accompanied by high fever, extreme prostration, drowsiness and mental symptoms suggestive of serous meningitis. In cases of this type mastoid drainage is a logical precedure in the beginning, at the same time as the paracentesis or in place of it. In such cases it will mean the end of anxiety about the case and lead to rapid convalescence.

These are the classical indications for the mastoid operation in acute ear conditions and are based upon the presence of marked signs of mastoid suppuration or upon the presence or impending danger of intracranial complications.

With the development in technique of the operation the field for its employment has been gradually extended. It is now often resorted to by thoughtful, conservative surgeons without waiting for extensive destruction of the bone or for the appearance of symptoms seriously threatening to life. Their reasoning is similar to that of the general surgeon who does not wait for the appearance of fecal vomiting before operating upon a case of strangulated hernia. This point of view is clearly set forth by Sir Charles Ballance of London in his essays on the Surgery of the Temporal Bone, the reading of which served as the inspiration for the preparation of this little abstract. He says: "I have never regretted opening the mastoid antrum in acute otitis, but I have not seldom seen cause to regret the postponement of the operation and I am now convinced that it is less safe to let the patient run the certain risks of permanent damage to the hearing, of extensive bone infection and of intracranial complications than to endeavor to prevent these evils by promptly draining the bony cavities through the mastoid."

If it were not for the fact that the mucous lining along which these infections travel from the eustachian tube to the furthest confines of the mastoid, is capable of resisting infection and preventing the involvement of the bone itself, we should at once attack surgically every suppurative inflammation of the temporal bone just as we do an osteomylitis of any other bone. We must bear in mind that the great majority of these infections, even with suppuration in the mastoid cells, resolve and make a complete recovery, provided satisfactory drainage is maintained through the tympanic membrane. It is in those cases in which this form of drainage is inefficient that we get prolonged suppuration, delayed convalescence and run the risks of permanent damage to the hearing function and the establishment of a chronic suppurating inflammation.

So in this outline of the indications for mastoid operation in acute ear disease I may add certain symptoms that, apart from any external evidence of mastoid inflammation, suggest that drainage is inefficient and that may influence the surgeon to establish early efficient drainage through the mastoid. There are four symptoms that may persist if free incision of the ear drum is not successful in causing prompt amelioration of symptoms and disappearance of physical signs. These are temperature, pain, bony tenderness on pressure and persistent, profuse discharge.

In regard to temperature and pain, it must be emphasized at the outset that extensive suppuration and destruction may proceed either rapidly or insidiously, while fever is absent and pain inconsiderable. When they are present they are of valuable diagnostic significance.

As regards fever, it must first of all be borne in mind that it may be caused by the original disease, of which the ear infection in a complication, measles, scarlet fever, diphtheria, influenza, pneumonia and the various other infetcions of which otitis media is a common incident. In the second place, we must consider the temperature as a possible evidence of some complication of the ear infection, such as meningitis and sinus thrombosis. If both of these factors have been eliminated, it may be said that when fever persists or reappears after incision of the drum, it means absorption and indicates either a large inflammatory area, a small focus under tension or an infection of special virulence. It usually points to an extension of the inflammation in the mastoid.

Pain, like temperature, when it persists or reappears after rupture or incision of the ear drum, is indicative of retention of inflammatory products under tension and usually indicates involvement of the mastoid. Such pain is often different in type from that of the original earache, more deep-seated, knocking or boring in character, sometimes referred to as a headache. With severe pain of mastoid origin, insomnia also is usually present, and the persistence of pain and insomnia is an indication that resolution is not taking place. Temperature and pain are valuable clinical factors taken in connection with the other symptoms in arriving at a conclusion in regard to operative intervention.

Tenderness over the mastoid, without any other symptom of mastoiditis, is to be regarded as an indication for operation only when it occurs in the later stages of an acute otitis. In the beginning nearly every mastoid is more or less painful on pressure. But if tenderness, especially at the tip, occurs for the first time after the discharge has persisted for several days, it is then a sign of retention of pus and a progressive invasion of the mastoid which may demand operation.

Discharge: A very profuse discharge, which rapidly refills the meatus as soon as it has been emptied, can not come from the tympantic cavity alone, and leads one to suspect a large pus-producing cavity in the mastoid. Such a condition may exist without temperature, without external signs of mastoiditis and without the least tenderness on pressure, the only symptoms being the profuse discharge and impaired hearing. These are cases that are apt to run a long course, resulting in irreparable damage to the ear drum and the sound-conducting mechanism, with impairment of hearing, and are apt to be followed by a chronic otorrhoea. These are the cases in which it is difficult to decide whether complete healing will occur without operation. Most aural surgeons are agreed that mere persistence of a profuse purulent discharge is a definite indication for operation, and that while it persists there is a menace to life, health and hearing function. They are far from agreement as to what constitutes a persistent discharge in any particular case. That is a matter to be determined by the experience and judgment of the surgeon. It may be said, however, that, on account of the impossibility of determining the risks to the patient, there is a growing tendency to carefully consider the advisability of operation in some cases during the early stages of the disease on account of the nature and amount of the discharge, even if more urgent indications for intervention are absent.

It would seem that X-ray examination might be relied upon to furnish exact indications for the mastoid operation in suppurative inflammation of the temporal bone. Its use is of value, but only in conjunction with a consideration of the other clinical data. In the first place, as we have stated, nearly all cases of severe, acute otitis media show cloudiness of the mastoid cells, indicating their involvement in the process. The great majority of these promptly resolve and recover in a week or two. Radiograms, taken at intervals in the course of an acute otitis media, will demonstrate whether the infection is progressing or resolving, and are of value in this respect. They will also demonstrate whether the mastoid is composed of small cells with thick, well-nourished walls, or whether it is one with large pneumatic cells with thin septa, in which progressive and rapid destruction may easily take place. In the later stages of the disease the X-ray will of course give evidence of the breaking down of the septo between the cells and the general disorganization of the bone. But it has already been demonstrated that in many cases it would be both unsafe and unwise to wait for such indications and that it would be wiser to be guided by the clinical signs and surgical principles we have discussed. If we relied upon the X-ray alone we would either operate unnecessarily upon cases because there was evidence of a cloudy mastoid, or we would operate too late while waiting for evidence of destruction of bone. In conjunction with the clinical evidence, radiography, however, is a valuable and helpful adjunct.

Conclusions: It is not the intent of this essay to postulate any formulae or rules, the application of which to any individual case will automatically decide upon the surgical procedure necessary and the time to use it. Surgery is not such an exact science.

The attempt has simply been made to indicate the importance of every acute suppurative ear infection, to sketch the pathology of it and postulate the principles on which the treatment of it should be based. In doing this, the fact is demonstrated that, although the effects of an acute suppuration in the temporal bone may be complex and far-reaching, it is similar to acute infections in other bones and is to be combated by the application of similar principles. The aims in treatment are to conserve the integrity of the ear as a special sense organ, to prevent death through the involvement of contiguous structures and to prevent chronic suppuration. The logical method for accomplishing these aims is by affording adequate drainage for the purulent exudate. The best procedures we have at present for doing this are free incision of the tympanic membrane in the early stages and the employment of the simple mastoid operation when the disease has progressed to the point where the former proves insufficient. With the development of the technique of this operation to a point where, in skilled hands, its employment is so free from dangers to the patient and its results so prompt in promoting rapid convalescence, we may consider it not merely a measure of necessity to preserve life when dangerous complications are present, but also as an elective procedure to conserve hearing and prevent chronic suppuration, thereby promoting economic efficiency, health and well-being.

The application of these surgical procedures must be based upon the skill, judgment and experience of the surgeon who interprets the signs and symptoms that we have enumerated. In proportion as the importance and seriousness of acute ear infections are better appreciated by laity and physicians, the morbidity as well as the mortality resulting from them will be greatly diminished.

A Plea for a More Comprehensive View in the Treatment of Chronic Abdominal Lesions

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IN dealing with disturbances of the digestive tract we are too prone to attribute the symptoms to a single abdominal lesion and to conclude that the treatment or removal of the same will produce a complete and permanent disappearance of symptoms.

A careful consideration of the subject will show that this is an error and that in the vast majority of cases the underlying cause is not a single entity, but multiple, consisting of a number of factors more or less closely associated. The chief object of treatment is to render the patient free from symptoms. To accomplish this, it is necessary to determine and remove each and all of the underlying causes. These etiological factors may be grouped into three classes. In the first are included the existing abdominal lesions; in the second, the causes which have produced them, and in the third, the various conditions which have arisen as the result of their presence.

Of the abdominal lesions associated with disturbances of the digestive tract the most common are: Chronic appendicitis, gastric and duodenal ulcer and cholecystitis. The symptoms which they produce are to a greater or less degree common to all and are due to stimulation of the vagus nerve. Such stimulation in the majority of cases is only partial and does not produce the classical vagotonia. It may result from the irritation of the terminal afferent fibres of the vagus at the site of the lesion or may be due to the action of certain toxins absorbed from the intestinal tract. These lesions rarely exist singly. They may begin so, but invariably, sooner or later, others develop. This is due to the fact that the causes most instrumental in the production of these lesions exert the same influence upon all three organs. Moreover, when one of these pathological conditions has developed in the abdomen, it either produces new conditions favorable to the development of other lesions, or intensifies those previously existing, thus producing a vicious circle. These lesions seem to follow a definite order of development. The earliest to appear is disease of the appendix, then ulcer, and lastly, inflammation of the gall-bladder. Thus we find ulcer following and co-existing with chronic appendicitis most frequently. So striking is this interrelation between these two lesions that one cannot but conclude that chronic appendicitis is a causative factor in the production of the ulcer. Next in frequency is the association of ulcer with chronic cholecystitis. In not a few cases we find the three lesions co-existing. Usually when two or more lesions exist together, one of them predominates, while the others remain more or less latent, being in an earlier stage of development. These latent lesions are frequently overlooked, and are responsible for the many failures in the treatment of disturbances of the digestive tract. This error is often made in cases of chronic appendicitis associated with ulcer. In these cases, prior to operation, we often obtain, by means of a complete gastro-enterological examination, clear evidence of the existence of an ulcer; but, at operation, the surgeon fails to find any external evidence of its presence. From this he concludes that no ulcer exists, and at the advice of the surgeon, the patient disregards all future precautions as to diet and other treatment. While it is sound in principle not to operate on the stomach unless there is a clear external evidence (such as an area of induration), yet to conclude, for the same reason, that no lesion exists is erroneous. Careful observers have shown that not only superficial ulcer, but even those with a considerable degree of induration, fail to give such external evidence; for a while such patients are free from symptoms, partly on account of the appendectomy and partly on account of the rest and restriction of diet incidental to the operation; but sooner or later, in the majority of cases, the symptoms return, much to the disappointment of the patient. It would seem a wise precautionary measure to advise further medical treatment in all those cases which, at operation, present no sign of ulcer, but who in their pre-operative examination presented strong evidence to the contrary, especially if no other cause can be assigned for the symptoms.

To render patients free from symptoms it is not only necessary to find and treat all the existing lesions, but it is equally essential to detect and remove their underlying causes, as otherwise they will recur, as in the case of ulcer, or new lesions will be produced. The most common causes of these pathological conditions are: abdominal ptosis, vagotonia and focal infection.

Visceroptosis is frequently associated with the above lesions, and as the result of the chemical and mechanical changes which it produces in the gastro-intestinal tract, is an important factor in their etiology. Minor degrees of ptosis do not produce stasis or give any symptoms. The more severe grades of this condition as the result of the displacement of the colon and stomach produce stasis in these organs, resulting in increased production in and absorption of toxic material from the intestine. These toxins act upon the vagus nerve, producing a partial or complete vagotonia. This brings about motor and secretory disturbances which intensify the previously existing stasis and produce the latter condition in the appendix, gall-bladder and stomach. The toxin responsible for this action upon the vagus is peptone. In a small percentage of these cases no further changes take place. We then have a class of patients presenting abdominal ptosis and vagotonia with functional disturbances of the digestive tract. It is most important to recognize this type of cases, as many of these have been subjected to operation obviously without benefit. The majority, however, of the more severe grades of ptosis as the result of intestinal stasis and pylorospasm develop definite pathological conditions. These present a most difficult and complex clinical entity. It is unwise to submit these patients to operation unless it is clearly indicated. Even after most necessary and careful surgical procedures the symptoms almost invariably return. This is due to the fact that the ptosis and vagotonia persist and continue to give symptoms. Greater benefit can be obtained by treating the underlying causes, by postural, dietetic and medicinal measures.

Vagotonia, partial or complete, is now recognized by many as one of the causes of ulcer and abdominal lesions. It may be congenital or acquired. When the latter, as previously stated, it is either due to certain toxins or preexisting lesions. According to some, it may be due to endocrine disturbances. When once developed, as a result of the motor and secretory disturbances which it causes, it produces conditions favorable to the development of abdominal lesions. On account of the spasm which it excites at the various sphincters, and along the intestinal tract, it produces stasis, not only in the intestine, but also in the various organs which are connected with it, the appendix, gall-bladder and stomach. This stasis produces changes in the blood supply of the organs and increases their bacterial content, thus favoring infection. In the stomach and duodenum, as a result of the pylorospasm, it impairs the nutrition of the adjacent mucosa, thus diminishing its resistance to the action of the gastric juice and to the invasion of bacteria. Furthermore, it increases the friction between the food and the mucous membranes, thus favoring the production of erosions.

Focal infection, according to some, is considered the most important cause of these abdominal lesions. Rosenow practically considers this the sole causative agent, the prevailing organism being the streptococcus viridens. Cases of acute appendicitis, ulcer and cholecystitis so frequently follow an attack of tonsilitis that no one can doubt the causative relation between the inflammatory focus and the abdominal lesion. The majority of cases, however, have an insidious onset. To these, the causative relation to focal infection is not so apparent. The prevailing opinion is that in these cases there are other agents, such as vagotonia, stasis and traumatism, which are the important and determining causes, while the bacterial invasion is only secondary or terminal process. A fact which has cast some doubt upon the theory of focal infection is that, except in certain cases of polyarthritis, no striking results have followed the removal of the infectious foci. This, however, does not prove that such lesions are not due to focal infection, but merely emphasizes the fact that when bacteria have once invaded and established themselves in the tissues, the removal of the source of infection exerts but little influence upon their progress. This is especially the case in chronic abdominal lesions. We should look upon the procedure of the removal of infectious foci as we do upon the use of vaccines, that they are more potent factors in the prevention of disease than in its treatment. Unless the above causative factors are removed, treatment of the lesions themselves, whether it be surgical or medical, will not in the majority of cases render the patient free from symptoms.

There is still a third group of factors which must be considered in the treatment of these pathological conditions. This includes the various factors which arise as the result of these lesions. The most important of these are peritoneal adhesions. These co-exist with most chronic lesions, and are due to the extension of the inflammatory process to the serous coat. They may also be the result of surgical traumatism and infection. They may be confined to the region of the inflammatory focus, develop along the course of the colon, when they are due to the associating intestinal stasis or become general and extend throughout the entire abdomen. They interfere to a great extent with the treatment of these lesions, in a two-fold manner. By stimulating the vagus, they produce symptoms very similar to those caused by the lesions themselves, and their removal is almost invariably followed by recurrence. For these reasons they should be left alone, unless they produce constriction, angulation or untoward fixation of the organ. The value of such conservatism has been clearly established in dealing with the pericolic membranes in the right iliac fossa, which accompanies most cases of ptosis, and is associated with stasis and minor pathological changes in the cecum and appendix. The same conservatism should be adopted towards duodenal adhesions. When they are not clearly due to the presence of a diseased gall-bladder or a duodenal ulcer, or when no constriction of the organ or no motor insufficiency of the stomach exists, they should be left alone. The frequency and far-reaching effects of adhesions are a strong argument against indiscriminate laporatomies in the treatment of minor disturbances of the digestive tract.

Another condition which is frequently associated with and often the result of these lesions is a disturbance of the autonomic nervous system. In early life it is usually the vagus which is overstimulated; when this is the case, it is accompanied by a hypo-adrenia and causes a moderate bradycardia, hypertension and exaggerated gastro-intestinal disturbances. Less frequently, there is an excessive enervation of the sympathetic nerve; when this is the case, a moderate hyperthroidism is produced and it is characterized by rapid pulse, moderate hypertension, marked nervous disturbances and slight enlargement of the thyroid gland. Occasionally there is a mixed sympaticotonia and vagotonia. These conditions may pre-exist and act as causative factors, as previously described. In such cases they are intensified by the presence of the lesion. Of unusual interest is the fact that in early life it is the vagus, while in later life it is the sympathetic nerve which is most commonly involved. Whether this is due to a difference of susceptibility of the two nerves at the different ages, or whether it is due to the absorption of different toxins, is difficult to determine. When the sympathetic is overstimulated in early life, a certain degree of hyperthyroidism, characterized by marked nervous symptoms, is always produced. In later life, however, owing to more or less atrophy of the thyroid, the nervous symptoms are frequently absent, but the hypertension is more marked, due to the associating hyperepinephrinia. Frequently in later life, about the age of 50, the gastro-intestinal symptoms disappear, but the hypertension progresses, finally producing changes in the arteries, kidneys and heart. Not a few cases of arteriosclerosis are the end results of these latent abdominal lesions. As a result of these conditions, in some patients, the nervous symptoms predominate, rendering treatment more difficult. Too often, as the result of an incomplete examination, these cases are passed by, as neurasthenics or nervous dyspeptics.

In some cases, owing to the associating anemia, toxemia, subnutrition and endocrine disturbance, there is established a condition which lowers the resistance of the patient to disease, retards the process of repair, as in ulcer, and otherwise interferes with the progress of treatment. The extent to which this condition may prevent recovery is not fully appreciated. In such cases it is often better for a while to disregard the lesion and improve the patient's general condition by increased diet, freedom from responsibility, and other supportive measures.

When we consider the many factors that may be associated with chronic abdominal lesions, and which may cause disturbances of the digestive tract, it is obvious that the complete and permanent removal of symptoms must be a difficult matter. The high percentage of cures claimed by various members of the profession and obtained as the result of some single surgical or medical procedure is entirely misleading and does not appear to be founded upon sufficient observation. The removal of a diseased appendix in an enteroptic, the treatment of a chronic duodenal ulcer by a simple pastro-enterostomy or the resection of an inflamed gall-bladder is not of itself sufficient in the majority of cases to produce a complete and permanent relief of symptoms. It often requires months or years of additional treatment and observation to overcome the associating and post-operative condition: even then the task is always difficult and not infrequently a hopeless one.

In conclusion, it cannot be too strongly emphasized that the majority of patients with chronic abdominal lesions present a complex clinical entity and offer a most difficult therapeutic problem. It is only by the carefully coordinated efforts of surgical and medical treatment that we can hope to accomplish much for these patients.

Vaccines in the Treatment of Asthma

MICHAEL L. LANDMAN, M. D.

WE cannot take up the consideration of asthma without paying tribute to I. Chandler Walker of Boston, whose work at the Peter Bent Brigham Hospital is the basis of our present knowledge and understanding of the subject. It was Dr. Walker who first definitely established the relationship between anaphylaxias and asthma and differentiated the four great groups of sensitization—pollen, food, animal emanations and bacterial—as the principle factors in its etiology.

Just as sensitization may occur to the protein in pollens, foods, animal hair and dandruff, feathers, etc., so may sensitization occur to the protein in bacteria. Just what the mechanism of sensitization is, is a matter of conjecture. That it does take place is an established fact. As far as bacteria are concerned, sensitization does not take place to the whole bacterial body. It is necessary that the organism be split up into its component protein elements before sensitization can take place. This presupposes infection with the bacterium and an immune response during which the component proteins are set free. Then, the patient having the idiosyncracy necessary for this peculiar phenomenon, is sensitized to these proteins. After that, every time the patient is infected with this organism, the liberated proteins are too much for his sensitized tissue cells and he suffers protein poisoning, or anaphylactic shock, or an attack of asthma, which are all one and the same thing. The attack continues until his system has overcome the infection and eliminated enough of the toxic protein to bring its content down below his maximum tolerance. Then the attack ceases.

The symptom complex of an asthmatic attack, whether bacterial in origin or due to any other protein, is always the same, varying only in degree and intensity. In asthmas of bacterial origin, however, the elements of primary bacterial infection and later bacterial mixed infection, resulting from the lowered resistance induced by the asthmatic attacks, makes this group of asthmas a distinct clinical entity.

This group is characterized, in a general way, by the fact that attacks may occur at irregular intervals at any time during the year, and particularly in the spring and fall, when sudden temperature changes predispose to bacterial activity. During the summer months and in warm, equable climates, these patients are fairly comfortable. It is this class of asthmatics who are benefited by change to a warm climate. But, unfortunately, after a season or two, having become acclimated, they again become prone to infections, and their asthma returns.

Clinically, there are three distinct groups of respiratory spasm of bacterial origin.

First. A simple sensitization without complications or mixed infection. This type is characterized by sudden onset of respiratory spasm, following a cold with cough and no expectoration. In the later stages of the attack, due to stasis, a productive cough results. With the bringing up of expectoration the attack ends, but the cough continues for some time. Clinically, it is comparatively rare, for, due to the lowered resistance induced by the asthmatic attacks, mixed infection with the respiratory group of bacteria soon takes place, an associated chronic bronchitis develops in time and the clinical picture is no longer as described above. The patient's attacks now come more frequently, more irregularly and more or less all the year round.

Second. These cases usually give a history of susceptibility to and frequent acquisition of colds. These repeated attacks of colds gradually merge into a continuous chronic bronchitis and, after years, true asthmatic attacks develop. In the first group, bacterial infection follows sensitization. In the second group, sensitization follows bacterial infection. In well developed stages the two types cannot be differentiated except by the history.

Third. In this group the clinical picture presents an old, long-standing bronchitis with attacks of respiratory spasm and dyspnoea which seem to be asthmatic attacks, but are really not asthma at all. In these cases, due to long-standing, chronic cough, emphysema and bronchiectasis have developed. Mucus accumulates and becomes inspisated in the dilated bronchioles. The irritation of this inspisated mass brings on a violent spasm of cough, with dyspnoea, which closely simulates an asthmatic attack. In this group there is no sensitization whatever, only a chronic, bacterial infection, with mechanical features simulating an asthmatic attack. It is this condition which is benefited by iodides.

Wherever possible, the specific bacterium causing the sensitization should be determined. As in hay fever and in the other protein groups of asthma, skin tests are used for this purpose, and the proteins used for these tests in bacterial asthma are derived from the respiratory group of bacteria. A cutaneous incision is made, on the flexor surface of the forearm conveniently, deep enough to draw serum, but not blood. A small amount of the dry protein is placed upon the incision and it is rubbed in with a sterile probe or toothpick and a drop of 10th normal sodium hydroxide. A reading is made within half an hour and a reaction is considered positive when a distinct urticarial wheel at least one-fourth of an inch in diameter, surrounded by an area of erythema at least twice that size appears. Another method equally as good in bacterial sensitizations, but not so reliable with other proteins, is agglutination tests, using the patient's serum and emulsions of a 24 hours' growth of these bacteria. Some cases which are insensitive to the skin tests will be detected by the agglutination tests. Both should therefore be done, for an accurate determination of the sensitizing bacterial protein means almost certain relief. Walker reports 90% of such cases relieved, the balance greatly improved, and only one case not improved.

Taking the general run of asthmatic cases with all kinds of sensitizations, only about 50% respond to the skin tests positively, and only 17% of these are sensitive to bacterial protein, according to Walker's findings in a series about 200 sensitive cases. In the 50% which are non-sensitive, a definite determination of the offending protein is practically impossible. Clinical experience, however, has demonstrated that at least half of these are due to bacterial protein sensitization, for they are relieved by the administration of autogenous vaccines made up from their sputums. Walker classifies the balance also as of bacterial origin, but undetermined. The probabilities are that the offending organisms are lurking elsewhere than in the respiratory tract. The tonsils and teeth and accessory sinuses must be examined with the hope that bacterial infection there may be the source of the protein sensitization in some of these. Danysz, of Paris, reports cures with vaccines made up from the bacterial flora in the intestinal tract. The seat of infection and protein sensitization may even be in more inaccessible regions, as in the abdominal viscera. At any rate, cases have been suddenly cured by gall bladder operation, or by an appendectomy. I have seen one case where the trouble was in the endomerium, and a curettage gave relief. And Walker reports a case of hernia, the repair of which gave relief. A recurrence of the hernia brought about a relapse of the asthma and a second repair brought relief again.

The treatment of bronchial asthma of bacterial origin consists of:

First. In common with other types, measures to give the patient relief during the attack.

Second. Desensitization against the offending bacterial protein.

Third. Treatment of the infection, both primary and secondary.

To give the patient relief while suffering an attack is of first importance. The efficacy of adrenalin for that purpose is well known. Dr. Peshkin of Manhattan and I have tried out, in the Immunotherapy clinic of the Polyclinic Hospital, a mixture of adrenalin and pituitrin. In doses of four or five minims of each, we found that the effect which adrenalin alone gives is delayed from five to ten minutes, but the desired action is immeasurably prolonged. Pituitrin seems to prolong the action of adrenalin. The pulse was invariably lowered. Blood pressure readings were very variable, increased in some cases and lowered in others. One injection a day is sufficient to control a severe case. One every other day a moderately mild one. The use of this mixture in contraindicated in cases with hypertension. We also noted that with the administration of this mixture vaccines seemed to gain a better hold. This may be due simply to the fact that the endocrene control of the spasm saves the patient from the lowered resistance induced by the attack, and he is therefore able to maintain a better immune response to the vaccine.

The problem of desensitization in those cases in which the offending bacterium has been determined is quite simple. The sputum is collected, in a sterile container, during an attack if possible, and sent to the laboratory within two hours, at most, with instructions to isolate that organism and make a vaccine from it. The vaccine injections are then given as will be described later. In the non-sensitive cases, since we have no clue as to the sensitizing organism, the problem is not quite so simple. However, we know that in most cases the offending bacterium is among the respiratory group, and these are not many in number. We also know that in order to cause an asthmatic attack the bacterium must infect. The chances are, then, that the infecting organism will be the predominant one. This narrows our problem down to a workable basis and the procedure is as follows:

The sputum is collected and thoroughly washed with sterile saline solution to remove mouth bacteria and other saprophytic growth. Out of the characteristic asthmatic sputum only a thick yellowish plug will remain. Now, some bacteria will grow well on plain agar and others will not grow on this media at all. Some will grow on blood agar and not on any other media. Therefore, in this hunt for a possible causative organism, every possible facility for the growth of all organisms must be given in order to make reasonably sure that the one we are hunting will not be missed. A piece of the washed sputum about the size of a small bean is shaken up in nutrient broth, and from this two sets of broad-surfaced plates, one of plain agar and the other of blood agar, are innoculated and incubated. A reading is made in 24 hours and the predominating growth on each set of plates is isolated and a vaccine made of each. If two organisms happen to be predominant on either set of plates in equal proportions, both are made into vaccines. These vaccines can then be used either separately until relief of symptoms with any one tells us which is the proper one, or they may be all used together.

The organisms found most commonly to cause asthma are Staphylococci, Streptococci, Diptheroids, Bacillus Friedlander and a gram negative bacillus which resembles Colon bacillus. Cases have been reported of occasional sensitization to Pfeifer bacillus, Pertussis bacillus, Micrococcus catarrhalis, tetragenus and others. In fact ,any bacterium capable of parasytic infection is capable of sensitizing with its protein. Last year I found a large, gram positive, coffee-bean-shaped tetroid very prevalent in nearly all sputums from various sources. In one instance, at least, there was a definite sensitization to this organism which was relieved by vaccine. This fall I have, so far, rarely encountered it.

The specific treatment of bacterial asthma consists of slow and gradual desensitization with vaccine made from the whole bacterial body of the sensitizing organism. The advantage in using vaccine instead of protein prepared from the bacterial body lies in the fact that in addition to the process of desensitization we are immunizing against infection with the same organism. Since infection with the organism is essential to the production of an attack of asthma, the value of immunization is evident.

The dosage is of extreme importance. To obtain good results with vaccines in asthma it must be remembered that we are dealing with protein hypersusceptibility and that, in administering this protein, we must keep below the patient's maximum tolerance. If the patient's maximum tolerance is crossed, he will be thrown into an attack of asthma. Fortunately, vaccines are not as sensitive as the pure protein would be. We can therefore use it with less caution. However, the dosage must be small and the increases slow and gradual. The initial dose should never be more than 100,000,000 of the bacterium and the increase 25,000,000 every fourth day; or, as Walker uses it, never more than 50,000,000 with an interval of one week. I personally prefer the smaller dose with the shorter interval. The results obtained with vaccines in cases where skin tests have determined the sensitizing bacterium are brilliant. In the non-sensitive cases the results are not so good, bu t still encouraging. In all I should say that about 60% are relieved.

The cures, so-called, are not permanent. When vaccines relieve the asthma, the patients are free from it from two to six months as a rule. If the sensitization returns, the case is more easily controlled the second time. But a patient with an anaphylactic diathesis, if I may use the term, may be completely desensitized against the protein of one bacterium and be sensitized the next attack with another. So that, if the vaccine which was once effective fails a second time, the sputum must be studied again and a new sensitizing organism found.

The duration of anaphylactic desensitization against bacterial proteins seems to follow very closely my observation of the duration of immunity against the respiratory bacteria. Acquired immunity, either by an attack of bronchitis or vaccination with a mixed vaccine containing the bacteria usually found in sputums from bronchitis, confers an immunity varying from six weeks to six months. Desensitization with bacterial vaccines seems to give approximately the same period of immunity from anaphylactic manifestations.

The treatment of asthma, no matter what the cause, will fall short of attaining the desired results if the associated chronic bronchitis is neglected. You have all had experience with the treatment of chronic bronchitis with expectorant mixtures. I dare say you have not found the results particularly brilliant. I have had considerable experience, in the past four years, in the treatment of chronic bronchitis, per se, in association with pulmonary tuberculosis and with asthma, and I know of nothing that is half as effective as autogenous vaccines intelligently chosen and properly made. The principle bacterial offenders are Streptococci, principally hemolyticus, Pneumococci, chiefly belonging to group IV, Bacillus Friedlander, and a gram negative bacillus unclassified. Occasionally staphylococci and diphtheroids play a part and Paratetragenus, the gram positive tetroid I mentioned before, when it is running in epidemic form, as it did last year.

In conclusion I may say that since Walker showed us the way, we have made considerable progress in the treatment of asthma, but we have not yet succeeded in permanently desensitizing asthmatic patients. The real problem of the cure of asthma is not the relief or prevention of the attacks, but the removal of the initial sensitization which occurred before symptoms of asthma became manifest. Some day, perhaps, we shall find out what the phenomenon of anaphylactic sensitization is; then, perhaps, we shall also learn how to produce a condition of permanent anti-anaphylaxis. Then we shall be able truly to say that we can cure asthma.

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Erysipelas as a Complicating Factor in Otological Conditions

William Herbert, M. D.

Brooklyn, New York.

ERYSIPELAS has always been, and probably always will be, a possible surgical complication. There is no condition, in which the continuity of the skin is broken (either by trauma or the surgeon's knife), where it is not within the bounds of possibility for the streptococcus to enter and produce erysipelas. It is true that since asceptic technique in the preparation of the patient and operating paraphernalia has been followed, this condition has been so reduced as to be practically unlooked for, and when it does occur it is considered a calamity, and apprehension for the adjacent patients immediately causes the sufferer to be isolated.

The treatment is varied. Different surgeons have, of course, different ideas, and on the results of their treatment of cases is based their faith in the method followed. There is no need to mention the different remedies which for years and years have had adherents who have advocated their particular panacea. It is well to remember that the condition is an acute infective one which will run its course in spite of what we do, and our part is to support the patient, make him comfortable and see that he, as a menace to others, including ourselves, is so placed as to prevent a spreading of the contagion.

In suppurative otological conditions everything is present to produce erysipelas. In the infective material thrown out, in these conditions, multiple varieties of organisms are to be found. A pure culture from a suppurative ear which has been running a few days is beyond the writer's comprehension. In Otitis Media, with suppuration, we have the infective discharge coming through the auditory canal and frequently running down the cheek. The patient, if a child, is apt to scratch the area where the discharge has dried, and we have the essential factor—the broken integment. There is also the traumatic possibility in the insertion of the aural speculum and the wiping out of the canal. In Otitis Externa, with furunculosis, there is also present the favorable opportunity for invasion of the skin by the streptococci.

In considering these opportunities for the organisms to produce erysipelas, it is cause for amazement that we so rarely see such a complication in otological work. It is also the good fortune of the aurist that these cases are rare, for, when they do occur, they increase his perplexities and endanger the life of the patient in his charge.

Following a mastoidectomy, there is no more unpleasant occurrence than, after a few days of typical post-operative temperature, to have the thermometer register 105 or 106. Immediately we are confronted with a condition which, while containing only a few possibilities, is of a serious nature. Lateral sinus thrombosis is the first thing the aurist as apt to think of and close observation of the case follows. The temperature drops in the morning and rises in the afternoon.

After perhaps two days of such a condition a jugular ligation, with an opening of the sinus, is performed, and the sinus is found patent, with no evidence of an infective clot. The temperature drops and the patient feels better. The surgeon states it was a mural clot which escaped with the free bleeding. Two days later St. Anthony's Fire appears and erysipelas runs its course.

The complication is a grave one and we have no way of deciding what is to the best interest of the patient. If there is the skin manifestation with the elevation of the temperature, all well and good, but if it is delayed, we have a serious matter to consider. Aside from the skin, the symptoms are so similar that a differentiation is practically impossible. Blood cultures are not of such assistance that we can rely upon them absolutely. The author has had two cases of extensive thrombosis that gave negative cultures. Duell and Dwyer also report a case of fatal thrombosis with negative bloodculture.

The author recently had a case similar to the outline given above, in which, after a consultation with another aurist, operation was advised and in which erysipelas developed seven days after the operation. The temperature dropped after the operation and when erysipelas developed it was of a mild type. It is such cases that make otology interesting, but hard on the nerves.

Read before the Oto Laryngological Society, Oct. 24, 1921.

EDITORIAL

The weekly Bulletin of the Department of Health of New York City contains the following letter:

PHYSICIAN WANTED IN NEW JERSEY VILLAGE.

Dr. Royal S. Copeland,
Commissioner of Health, New York City.

SIR: Can you put me in touch with a young doctor who would consider settling in a small village with about eight or nine hundred people in a mile radius? I had a man who came down three years ago. He did well, but has now gone traveling indefinitely. Shall be glad to hear from someone. No other doctors within three miles.

William L. B. Culver, Box 34, Old Bridge, N. J.

This letter brings up again, and very pointedly, the question of adequate provision for the medical care of rural communities which are suffering from the tendency of the times, the migration to the cities. There is doubtless a splendid field for unselfish men in rural medicine. The country has the same right to enjoy advanced medical science as the cities, but how is it to be obtained?

There are two methods—one, that of legislative enactment which contemplates the conscription of all physicians by the state so that they may be allotted where needed. The other, the personal appeal. The first method is unthinkable—if for no other reason than that it has been tried out in Russia and failed dismally. Soviet Russia conscripted all physicians, regarded all physicians as equally capable, equally sincere, equally adaptable; granted them each equal compensation, with the appalling results that appear in Dr. Estes' address in the December number of this Journal. The answer to state medicine is definitely shown in that address.

The American method, on the other hand, of equal opportunity for the individual, requires a different treatment than it has yet received. No one has for a moment seriously considered forbidding the country population to move into the cities, nor has it seriously discussed legislation to compel laborers to move onto the farms, although these are living problems of most momentous import. When they have been discussed they have been approached from the angle of how to induce labor to choose farm life, and how to persuade intelligent people to take up the all-important occupation of the farmer. And this problem of rural medicine must be approached in the same way. If the people of Old Bridge, New Jersey, will offer a concrete proposition, guaranteeing a reasonable return, together with social opportunities, as did that town in Michigan which offered a rent-free house and garage, with a guaranteed minimum income; and if it will show itself sufficiently progressive to co-operate in questions of public health as did that Michigan village, then they will get doctors. The whole trouble with the rural proposition is that a very essential point of view is lost sight of—they are more than willing for a physician to come and take his chances at making a living with them, but they refuse to see that the human nature in the doctor which makes him want to marry and rear a family, and provide for them in comfort, and which urges him, if he is progressive, to keep in touch with the advance of his science, leads him whither he can get these things with a greater certainty. Let the villagers make a reasonable guarantee and they will find little difficulty in getting not only doctors, but doctors of the better class. H. G. W.

Chiropractic

IS chiropractic scientific? The Universal Chiropractor's Association of Davenport, Iowa, U. S. A., says that it is. They say this in an advertisement published in the Roycroft Magazine, and surely they ought to know. They say that "Chiropractic is a science. The Chiropractor is trained to detect spinal abnormalities by hand and verify by X-ray until he knows, with absolute certainty, the position and relation of the spinal bones." We are assured that—"For instance, the Chiropractor knows—not guesses—but knows—what organs in the body are weak or diseased after he has analyzed the spine. Conversely, he also knows which organs are healthy and sound. His word is the word of authority. There are things about disease which he cannot find out in this way, but these things are not essential to the cure. He never mistakes a guess for a fact. It is because Chiropractic is exact, specific and definite, that Chiropractors achieve a higher percentage of results than any other profession."

These are quotations and must be accepted as true because the Universal Chiropractic Association says they are true. Sir Isaac Newton, old, possessed of knowledge such as few men have attained, endowed with an intellect of unsual capacity, acknowledged that he was but an infant picking up pebbles upon the shore of the ocean of knowledge. We have met some callow youths who could give Sir Isaac cards and spades when it came down to assertive cocksuredness about the things they know. It is mercifully given to the fool to be ignorant of his own foolishness. He does what he does, and he says what he says with a sublime assurance that would place him just a little lower than the angels, were not the angels a sensitive group who shun too near association with this sort. To a medical audience it is needless to analyze the pretentions which are here so blatantly set forth, but one or two questions are worth while. Why is it that a chiropractor can learn in two months to know—not guess, but know —by the sense of touch what is hidden from physicians who have trained their fingers and their eyes for years? If a scientific thrust can with certainty restore a suffering organ to its normal usefulness, why it is that a certain chiropractor, whose name and residence can be supplied upon request, keeps a cupboard full of drugs to treat his chronic dyspepsia instead of having it set right by one of his gifted confreres? The more one comes in contact with these assertive fools, the more tempted he is to apply force to that portion of the spinal column which is said to be man's inheritance from his simian ancestors. A few thrusts at this essential point might bring about an awakening of intellect, for in our earlier youth we were assured that the seat of understanding in the immature was not situated at the upper end of the spinal column, but at its base, and that the fundamentals of wisdom were best driven home through that avenue of approach.

H. G. W.

Hearts

IN the Long Island Medical Journal for October there appeared a letter from Sir James Mackenzie which, coming from the originator of the polygraph, should be considered as carrying great weight. The distinguished writer speaks with unmistakable emphasis of the unwisdom of placing dependence upon graphic methods of examining the heart. He says, "Probably 95% of the irregularities found among patients can be recognized by the trained senses, and if one limits the use of this kind of knowledge to those who can use instruments the vast majority of doctors will never be able to employ the knowledge of practice."

It is interesting to contrast with this a paragraph from the preface of Thomas Lewis' work on "Mechanism and Graphic Registration of the Heartbeat." He says, "Of the immediate value of graphic methods to practical medicine, it is my desire to speak but briefly. These records have placed the entire question of irregular or disordered mechanism of the human heart upon a rational basis, so giving to the worker the confidence of knowledge; they have influenced prognosis and have rendered it more exact; they have potentially abolished the promiscuous administration of cardiac poisons, and have clearly shown the lines which therapy should follow. The new clinical observations have stimulated and directed a host of laboratory researches, anatomical, physiological, pathological and pharmacological, of a valuable nature.

"The records in themselves constitute the most exact signs of cardiac affections which we possess. Imprinted by the disease itself, they form permanent and unquestionable testimony of events which have occurred, and may be placed in the balance, without disquietude, while experiences of a more subjective kind fill the opposing scale. Judged from this standpoint, they possess also a great didactic value; they demand and impress accuracy of observation and, while nicely deliminating facts and fancies in their own sphere, sharpen the perceptions of similar boundaries in other spheres."

At first glance it would seem that we have an exactly opposite point of view expressed by two of the world's greatest students of the heart; but are they actually opposed? Are not each of them quite justified in the statements which they have made, provided that the apparent contradiction can be reconciled? As one reads the entire context of Sir James Mackenzie's letter it is perfectly evident that the goal to which he points is the widest rational bedside ability which may be attained by the largest number of medical practitioners.

In any consideration of disease there are several phases which must be borne in mind constantly. In the first place there is a determination of the exact nature of the disease, including its effect upon the various structures of the body, and the influences which may be brought to bear upon it by remedial agents. This constitutes a series of problems in physiology, pathology, and pharmacology, all of which are distinctly research branches of the medical art. The fullest possible knowledge of these fundamentals provides the practitioner of medicine with diagnostic ability and therapeutic power. Next in order comes the sick man himself, and the physician who ministers to him. They may be far removed from any centre of laboratory research and the problem then becomes an acutely personal one which involves the physician's capacity to recognize with the means which he has at hand the nature and extent of the patient's disease, and the promptest and most complete relief from suffering. The physician must be primarily a clinician, and the most capable clinician is the man whose natural senses have been trained to the greatest acuteness of perception while his intellect has been trained to the highest powers of reasoning, so that he may apply his memory pictures to the solution of the problem before him with the greatest possible accuracy. It seems quite evident that Sir James Mackenzie's insistence stresses this side of the problem without discrediting in any way the real value of instruments of precision.

Turning now to what Lewis has to say, one realizes, I think, that he is pointing out that there are certain definite means of measuring not only the audible character of the heart sounds and its rhythm and size and the relation of its auricular and ventricular contractions, but also variations from the normal in conductivity, contractibility and muscle volume of one side as compared with the other. It may be said without contradiction that the variations in the electrocardiogram provide definite information on these points, and, to a great extent, the degree of variation may be deduced from them. As Lewis emphasizes, these form accurate and permanent records whereby one may, from time to time, watch the progress of degenerative change. For example: successive variations in an electrocardiogram of a case of heart block will indicate not only the extent to which the bundle of His is diseased, but will also indicate whether it is the entire bundle or the branch to either the right or left side of the heart, or both. It may be said equally of the polygraph that auricular fibrillation may be recorded and its advance in an individual case kept accurate track of. And Lewis is doubtless right in insisting that such methods are of extreme importance, and that the more familiar they can be in the daily experience of those who deal with problems of the heart the greater the benefit to physician and patient alike. But Lewis does not say that every clinician must carry with him these instruments of precision in order to give highly intelligent care to a sufferer from heart disease, nor on the other hand does Mackenzie state that these instruments are not of immense value in the study and analysis of the fundamentals of cardiology. Each man stresses only one part of the picture, and the whole of that picture is this: The more accurate training that the individual practitioner of medicine can receive, the more firmly his knowledge is grounded upon demonstrable fact, the greater is his ability to deal with the real problem of disease of the heart. This problem, it seems to me, it not yet fully appreciated. It is not enough to be able to recognize a heart murmur or a combination of heart murmurs and assign them to the valves whence they originate. It is not enough to recognize that a heart is enlarged, or to be able to appreciate its rate and rhythm. The real problem is to be able to tell with approximate accuracy how much capacity any particular heart has for work. The patient with disease of the heart must know how long he is likely to live, what responsibilities he may reasonably assume, what and how much work he is capable of doing. Those who have read Lewis' little book on the Effort Syndrome and the Soldier's Heart will realize how far Lewis is in accord with Mackenzie upon this broader aspect of the problem, and those who have dealt with the problem from the bedside standpoint will realize fully how right Mackenzie is in insisting upon a point of view which brings to the patient's aid a practical judgment that is built up, not on laboratory findings alone, but upon that subtle intuition which is the product of careful physiological training plus a broad and sympathetic clinical experience.

H. G. W.

Society Transactions

TRANSACTIONS OF THE BROOKLYN SURGICAL SOCIETY

Regular meeting of the Brooklyn Surgical Society, held at the building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, N. Y., Friday, May 13th, 1921, at 8.30 P. M.

The President, Frank D. Jennings, M. D., in the chair.

PROGRAM

CASE REPORTS:—

The Miculicz Operation. Presentation of Patients.

DR. HENRY F. GRAHAM.

Discussion by Drs. William F. Campbell, James M. Downey, Thomas M. Brennan, Frederic C. Paffard, Robert F. Barber and Henry F. Graham.

FRANK D. JENNINGS, M. D., *President.*
ROBERT F. BARBER, M. D., *Secretary.*

Meeting of the Brooklyn Surgical Society, May 6, 1921.

Observations and conclusions from the use of the Miculicz Operation in three cases.—Henry F. Graham.

The Miculicz operation is the one of necessity in many cases. It has the following advantages:

First. It obviates the necessity of suturing or using a Murphy button in distended gut having poor blood supply and a thin, friable wall. Thus it practically eliminates the danger of post-operative peritonitis.

Second. It saves time. In critical cases, such as most of these cases of intestinal obstruction are, this is often synonymous with "It saves life."

Third. It is much preferable to a simple colostomy, which has the other advantage of this operation, because the stoma can usually be closed by a series of simple operations either with or without local anaesthesia.

Fourth. The end results are probably as good as any other type of operation.

Important points in technique:

First. Use the utmost care in suturing the limbs of the loop together. Try to get as thin a spur as possible and, of course, exclude all other loops of gut. The sutures do not need to pierce the gut itself, but can be placed in the mesentery at its base.

Second. Cut the spur thoroughly, not just the the top.

Third. It is, perhaps, better not to attempt to get spontaneous closure of the wound. If the mucosa is not cut down too close to the skin edge, there is more to turn in later, and a larger lumen results.

Fourth. I see no reason why a wedge of mesocolon can not be removed without removing or opening the gut itself. This would give to this operation every advantage possessed by any other. It would lengthen the time of operation, however.

CASE REPORTS.

L. F., 67 years; 9 St. Marks Ave. Referred by Dr. Gissel. Admitted to the Norwegian Hospital, Nov. 12, 1920. Discharged Jan. 6, 1921.

I did a supra vaginal hysterectomy on this patient Oct. 2, 1920, and her history before that operation was that she had had cramps in her lower left abdomen six months before and again two or three weeks before, and that she had vomited with the last attack. She said that the tendency to constipation was not more marked than usual. There was no blood or mucus in her stools and the shape was normal. She had a high blood pressure. I emphasize this history because the patient at the time this history was taken undoubtedly had an annular carcinoma of the colon.

The history that we obtained in the hospital during her second stay when we knew of her intestinal obstruction was this:

Two years ago she was seized with sudden abdominal pain and vomiting. Recovered in three days. Since then she has had similar spells at intervals of two to three weeks and lasting two or three days. Large doses of cathartics have been necessary to make the bowels move during these attacks.

Three weeks after her hysterectomy this patient had a severe attack. Bowel movements were very small and there was constant distress in the abdomen, with vomiting. She recovered from this attack.

November 12, 1920, during another attack, the patient consented to operation, which was done at the Norwegian Hospital.

Through a five-inch upper right rectus incision the abdomen was explored and the gall bladder was found full of stones. The transverse colon was dilated. There was a constricting growth at the splenic flexure. The first incision was sutured and a second one made over the left upper rectus. Through this the growth was mobilized and made the apex of a loop that was brought out through the wound. The two limbs of the loop were sutured together in an effort to exclude the mesocolon and other loops of intestine. The base of the loop was sutured to the parietal peritoneum. The proximal colon was punctured at the close of the operation to allow gas to escape.

The post-operative course was stormy because of a mild uraemia.

There were many casts in the urine and a cloud of albumen was present.

The blood urea was 16 mgms. Renal efficiency was 35% elimination of the phthalein in two hours. The urine was scanty and vomiting was frequent.

Six days after operation the loop and growth, which was an annular carcinoma, were burned away. There was primary union of the wound.

On the eighteenth day the patient had recovered enough from her uraemia to allow us to put the clamp on her spur. The spur felt thicker than usual and was more difficult to crush. It occasioned more pain and nausea than usual. I think that, in spite of our care, too much mesocolon had slipped in between the limbs of the loop, and I wish to emphasize the importance of this step of the operation.

On the thirty-first day the clamp was reapplied because of too much spur. The redundant mucosa was frequently burned down with the actual cautery to enable the wound to close. When the patient left the hospital the wound was the size of a lead pencil. The later history is interesting. Bowel movements are now scanty and there is a persistent fecal discharge from the colostomy which is annoying. However, we are content to let well enough alone, in view of the patient's age and her poor kidneys.

P. G. Age 53.

Past History: For four or five months before admission to the hospital this patient had suffered from colicy pains in the abdomen, due to gas. Some days they were severe and other days he was all right.

There had been no blood or pus in the stools. For a month he had been dosing himself with castor oil and salts.

Bowels had not moved for two days prior to admission.

Admitted to the Norwegian Hospital July 13, 1918.

His abdomen was enormously distended and tympanitic. There was nothing to aid in localizing the cause of the obstruction. A right rectus incision was made and gigantic coils of intestine protruded from the wound. The colon and caecum were greatly distended. Passing a hand within the abdomen and sweeping it around, an obstruction was felt at the splenic flexure of the colon. It was evidently an annular new growth. A caecostomy was hurriedly made by inserting a rubber tube into the caecum.

This operation afforded some relief, but the caecostomy did not drain in a satisfactory manner, so on the following day a second operation was performed. Through an upper left rectus incision over the growth, the splenic flexure was mobilized and the portion containing the growth was brought out as a loop through the wound and the wound was sutured. The gut was opened later, allowing the gas and fecas to escape. Recovery was very satisfactory after this operation.

Later the spur was cut with a clamp to reestablish the lumen, after removing the growth and adjacent two inches of gut on both sides.

The fecal fistula narrowed down and became very small, but did not completely close, so on August 28, about six weeks after the previous operation the edges of the wound were freshened up and the opening in the gut and the layers of the wound sutured. It was nearly healed eleven days later.

Dec. 10, 1918: All healed bowels move daily.

June 28, 1919: No discharge; some pain at times in the incision and just beneath it, when the patient is costive.

Oct. 20, 1919: Bowels costive at times; at other times are all right. Some gas occasionally.

Jan. 24, 1920: Bowels O. K. without cathartics. Some pain in wound on coughing, sneezing, and on lying down on a soft couch. Nothing abnormal felt.

Nov. 22, 1920: No sign recurrence. Abdomen soft. Liver not felt. Has a small ventral hernia.

May 6, 1921: No sign of recurrence. Feels very well. It is now practically three years since this carcinoma was removed and the patient is still well. This patient was present and was examined by those present.

Case 3—Miculicz operation for strangulated umbilical hernia. See Long Island Medical Journal of March, 1921. This patient was present and consented to examination by those present.

One other case of this kind has been in my care. A surgeon in St. Louis had operated upon this girl for intestinal obstruction and had done a Miculicz operation upon the ileum. She had made a good recovery, with the exception of a small fecal fistula, which I easily closed and which has remained closed since the operation. This patient has continued in good health.

DISCUSSION

Dr. William F. Campbell:

"There is little to say except to congratulate both the operator and the patients on the happy results that have been obtained in these very difficult cases. When we see results of this kind it makes us rather ashamed of the work we have done ourselves on cases in which we have failed to obtain as happy results as those the doctor has reported.

"In reference to the point about taking out a wedge of mesentery, the only question is one of vitality of the limbs of the gut. I think if it was done conservatively the vitality of the limbs would probably not be impaired and the result would mechanically be better, but I think we would have to be rather careful about impairing the vitality of the limbs and to see that not too much of a wedge-shaped piece of mesentery was removed.

"Further than that, Dr. Graham, you are to be congratulated. It is a fine piece of work."

Dr. James Maurice Downey:

"I wish to congratulate the doctor upon the good results he obtained. As far as the spur is concerned, that is the difficult part of the operation. I have experienced that, after the clamp is applied, if the spur should be a thick one, although we may go down deep enough and far enough in the cavity to divide the spur at the time, that when they are very thick and it is difficult to apply the clamp, they often recur.

"The method the doctor has brought to our attention—that is, in bringing the mesentery down—should, I think, receive careful attention. It would not be any more troublesome, and at the same time I do not believe the circulation would be interfered with."

Case Reports—The Miculicz operation. Patients. Dr. Henry F. Graham.

Dr. Thomas M. Brennan:

"I wish to congratulate Dr. Graham on his very interesting and entertaining presentation of this procedure and on the excellent results he has been able to obtain in these cases.

"Certainly it is in most case a life-saving procedure.

"The doctor commented on its marked popularity as one of the evidences of the progress of surgery.

"To repeat, it is, first and foremost, a life-saving procedure, particularly in cases of acute intestinal obstruction where the general condition of the patient is so serious as to prevent of procrastination in your operative procedure, and so, I think, the Miculicz operation is of great value, particularly where you are dealing with a gangrenous gut and cannot spare the time to go in.

"I think in acute intestinal obstruction it is of great value. Of course, we know how notoriously unsafe radical surgical procedure is in certain parts of the large bowel, where you take out a part of the large bowel, which would be attended with infection, and I think here again it fills in the gap where we can bring the large bowel in the wound and immobilize the large bowel by bringing it up and doing it in two steps and leaving the large bowel outside of the wound and avoiding the danger of infection.

"As to the spur, I don't think it can be done without interfering too much with the circulaton of the bowel. I think, where you are dealing with a growth where there is no gangrene ,you can tie it off, and I think that would have a tendency to cause a certain amount of retraction. I think the cutting out of the V-shaped piece of mesentery would result in a loss of vitality of the two parts of the loop.

"It is a very interesting subject and a very entertaining discussion."

Dr. Frederic C. Paffard:

"I want to congratulate Dr. Graham on his good results.

"It seems to me, in regard to the excision of the loop, that it would perhaps depend entirely on the condition of the patient. If the patient were in fair condition, I think it would be perfectly admissible to take out a very slender V without running the risk of damaging the vitality; but if the patient's condition was as serious as Dr. Graham described the condition of these two patients he presented tonight, it seems to me it would be very bad judgment in those cases to do anything to prolong the operation."

Dr. Robert F. Barber:

"I believe the original operation as described does not allow of any excision of the blood supply of the large bowel. I have seen one attempt to do that. It is a reasonable operation, provided you know at what point the nutrition of the bowel will be maintained. In this particular case what was thought a reasonable V-shaped section was cut out, full allowance being made for the number of vessels that went into the lateral aspects of the loop. However, the calculation was wrong and the entire loop became gangrenous. The mortality from this pperation today is about 15 per cent. The mortality of the original operations for excisions of tumors of the large bowel ran as high as 30 to 40 per cent., and that figure with the Miculicz operation has been reduced to pretty close to 15 per cent. So, from the standpoint of mortality, it is the safest operation, but from the standpoint of excision it is not rational; than is, from the experience I have had where that was done."

Dr. Henry F. Graham:

"I think this operation was originally intended for use in the large bowel only.

"My efforts tonight were directed more along the line of extending it for use in operations on the small gut.

"This question of excision of the V was only raised to get an academic discussion here tonight. I never have done it, and I don't know that I ever will. I think, if I were to do it, I would prefer to do an excision of a V mesentery of the small gut, because you can see the arches and can tell exactly what you can take out and what you cannot."

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

January, 1922 5 Pages

NUTRITION AND CLINICAL DIETETICS.

NUTRITION AND CLINICAL DIETETICS. By Herbert S. Carter, M. A., M. D. Paul E. Howe, M. A., Ph.D., Howard H. Mason, A. B., M. D. Second Edition thoroughly revised. Phila. and New York, Lea & Febiger, 1921. 703 pages. 8vo. Cloth, $7.50.

The second edition of this excellent book is a revision in facts with careful elimination of obsolete notions. New names, theories and menus are given with becoming respect for the latest publications in this broad field and the student of dietetics may consult this latest volume with full assurance of getting authoritative help. There are many exhaustive tables of food values.

W. S. H.

EVOLUTION OF DISEASE.

THE EVOLUTION OF DISEASE. With a Discussion of the Immune Reactions Occurring in Infectious and Non-Infectious Diseases. By Prof. J. Danysz, Institut Pasteur, Paris. Translated by Francis M. Rackemann, M. D. Phila. and New York, Lea & Febiger, 1921. 194 pages. 12mo. Cloth, $2.50.

This discussion of disease is very philosophical and describes life in terms of the Albuminoid Micelle—the unit of albuminoid matter—whose life history and nutrition lie at the foundation of all life and whose death naturally follows upon increased stability of its compounds.

In Part II of the book Prof. Danysz discusses immunity and anaphylaxis as resulting from recovery from infection through antigens.

As a study in immunity the little book is a remarkable condensation of material and explains in a wonderful way the subjects of anaphylaxis and anti-anaphylaxis.

W. S. H.

GERMINATION IN ITS ELECTRICAL ASPECT.

ORIGIN AND PROBLEM OF LIFE.

GERMINATION IN ITS ELECTRICAL ASPECT. A Consecutive Account of the Electro-Physiological Processes Concerned in Evolution, from the Formation of the Pollen-Grain, to the Completed Structure of the Seedling. By A. E. Baines. New York, E. P. Dutton & Co., 1921. 185 pages, with 130 illustrations. 8vo. Cloth, $6.00.

These two books are the result of some years of original investigation in Electricity and its relations to Physiology, Therapeutics and Pathology. The former deals principally with the processes concerned in the evolution of vegetable forms from the formation of the pollen-grain to the completed structure of the seedling. The latter is a less technical consideration from the theistic standpoint of the origins of life.

Mr. Baines seems to have formed somewhat exclusive theories about the processes of living matter which have not met with any too cordial reception from scientists generally; for his dedication is to men and women who are free from the shackles of scientific jealousy and are unhampered as well by medical "ethics" (quotation marks in original). His great idea is nothing more or less than that electricity is the only activating or moving force of all life forms. For instance, he claims that cell division is electrical in character, disagrees with the chemical theories of life, the brain is the seat of the highest potential, seeds are Leyden jars, and their growth is electrically stimulated from earth contacts, explains the electrostatic capacities of the human body, cancer may be due to an over-ionization, explains the auditory apparatus upon electrical principles, and sleep as an interference with the supply of energy to the brain or with the electrostatic capacity of the cells of the brain. There are 130 illustrations and a fair bibliography.

In his Origin and Problem of Life the author curiously bases his thesis upon the statement of the Old Testament that the "breath of God" is the essence of life. The explanation really is that oxygen is "life gas," and the absolute sine qua non of existence. There is some detailed refutation of evolutionary theories, as is common to conservative minds. Some twenty pages are given up to a minute consideration of the value of hard carbon as an agent used by the ancient Egyptians for the prolongation of life. Pictures of statues holding rods of carbon are given to intensify the impression of verity. The carbon rods, of course, are electric conductors. These are two rather curious books.

A. F. E.

MANUAL OF PHARMACOLOGY.

A MANUAL OF PHARMACOLOGY. By Walter E. Dixon, M. A., M. D. Fifth Edition, completely revised. London, Edward Arnold & Co.. New York, Longmans, Green & Co., 1921. 468 pages, illustrated. 8vo. Cloth, $6.00.

Dr. Dixon's Manual deserves to be better known in this country; it is an entertaining discussion of the subject, scientifically presented, and has the additional merit of considering the pharmacologic aspect only, avoiding the usual padding with chapters on materia medica, pharmacy, therapeutics, etc. The text is free from ultra-technical terms, yet the matter is submitted with a fullness that amply covers the subject and makes most entertaining reading. Consideration is given many drugs that are still official in the British Pharmacopœia, drugs that are considered obsolete in this country, but in other respects the volume should be a useful addition to the library of the practitioner in the U. S. A noticeable feature is the brevity in considering the glandular products and serum therapy, about ten pages being devoted to this subject. In view of the confusion existing at the present time regarding the action of the glandular group, it may be well that many of the fallacies be not perpetuated; possibly Dr. Dixon has taken a step forward in this particular.

M. F. DeL.

HUMAN EMBRYOLOGY AND MORPHOLOGY.

HUMAN EMBRYOLOGY AND MORPHOLOGY. By Arthur Keith, M. D., F. R. S., LL.D., F. R. C. S. (Eng.). Fourth Edition, revised and enlarged. New York, Longmans, Green & Co., 1921. 491 pages, illustrated. 8vo. Cloth, $10.50.

In this new edition of his excellent book Professor Keith has sought to incorporate the recent advances in embryology as they bear upon the development of the human body. One is favorably impressed, as in previous editions, by the author's direct approach to the subject without unnecessary introductory matter; and while there are occasional chapter divisions, the utility of which may be questioned, the continuity of the description is not thereby unduly broken. Professor Keith's style of writing is fortunate, as shown not only here, but also in his other notable publications; it is lucid and free, and ideas are not adumbrated by too many words.

The author is consistent in his treatment of the subject of morphology, and he expresses in a broad way morphological concepts as they are related to the human organism. However, one is a little disappointed at times over his treatment of certain topics. For example, "angiobrastic" tissue is regarded as aggregations of mesodermal cells which possess specific vessel-forming power, and it is further stated that vascular development takes place from these specific centers by growth of endothelium already formed. In the opinion of many investigators sufficient evidence has been brought to bear on the subject to cast considerable doubt upon the validity of the concept of the specificity of angioblast and endothelium.

When one views the book as a whole the impression is gained that the author is successful in his broad application of morphologic principles to human ontogeny, and he has wisely avoided, in a textbook of this nature, the use of details which would be involved in discussions of histogenetic processes. The illustrations, which are done in line work, are for the most part aptly chosen.

A. M. M.

TYPHUS FEVER.

TYPHUS FEVER: WITH PARTICULAR REFERENCE TO THE SERBIAN EPIDEMIC. By Richard P. Strong, M. D., S. D., George C. Shattuck, A. M., M. D., A. W. Sellards, A. M., M. D., Hans Zinsser, M. D., and J. Gardner Hopkins, M. D Published by The American Red Cross, at the Harvard University Press, Cambridge, Mass., 1920. 273 pages, plates. 4to.

The epidemic of typhus fever which ravaged Serbia early in the course of the world war is fresh in the minds of most of us, as is the memory of the fact that it was brought under control through the work of the American Red Cross Sanitary Commission, working in conjunction with the International Commission. The report of this Commission is now available, and fascinating reading it makes . Dr. Strong, who was the director of both Commissions, portrays in vivid language the origin and spread of the epidemic, the almost indescribable conditions of prostration and despair which gripped the country, the problem which faced the Commission on its arrival in the field—or, better, promlems—for, as can be imagined, there were difficulties within difficulties to be overcome, the most collossal of which was that of delousing an entire nation, and of how the forces took hold and did things or got them done and broke the epidemic. It makes one of the most dramatic stories in the history of medicine. The extent of the pestilence, its severity, the desperateness of the situation, the high pressure under which the work was accomplished, and the completeness and promptness with which this death-dealing thing was stamped out, all go to form a chapter which stands out in high contrast to the tales of battles and slaughter that make up the history of the great war. Stories of personal heroism and sacrifice are not wanting. Doctors, nurses, volunteer workers, including a number of American medical men, struggled against tremendous odds and died—or lived if they were lucky—through the dark days before the campaign of the Commission.

Dr. Strong discusses typhus from an epidemiological standpoint and describes in detail the methods used in combating the disease in Serbia.

The book includes a section describing the clinical observations of the disease by Dr. Shattuck. It represents a very carefully studied group of cases which are analyzed in considerable detail, with free reference to the observations of others. Autopsy reports are given in a number of the cases. Dr. Sellards reviews the laboratory findings as they were met in Serbia, together with some discussion of bacteriological and experimental features of their study. The bacteriological report is presented by Dr. Zinsser, with a supplementary report by Dr. Hopkins. The epidemic was concluded before very much work could be accomplished in the matter of research. Until late in the epidemic the Commission was too busy trying to stamp it out to give much attention to this phase of the subject. As is well known, what work was done failed to confirm the fact that the Bacillus typhi exanthematici described by Plotz was the etiological factor. Dr. Strong in this report accepts the work done later by Wolbach, Todd and Palfrey, going to show that the *Rickettsia prowazeki* is the cause of the disease. The transmission by the body louse is, of course, confirmed. The Weil-Felix reaction was not in use at the time of the Serbian epidemic, but is accepted as a valuable diagnostic aid.

T. H.

MORRIS'S HUMAN ANATOMY.

MORRIS'S HUMAN ANATOMY. A Complete, Systematic Treatise by English and American authors. Edited by C. M. Jackson, M. S., M. D. Sixth Edition. Revised and largely rewritten. Phila., P. Blakiston's Son & Co., 1921. 1507 pages, 1164 illustrations. 8vo. Cloth, $10.00.

It is indeed a great pleasure to again have Jackson bring out a new edition of Morris's Anatomy. This book has always been a progressive pioneer in the realm of teaching. It was the first general textbook of anatomy in English to adopt the Basle nomenclature. Jackson was one of the first to popularize cross-section demonstration for his students. The introduction of more X-ray plates also shows the tendency of the book to keep abreast of the times. In what more useful way can the ossification centers be shown?

As the preface states, this is a book for beginners. The publishers have made the book a handy size. The scheme of bringing out the more fundamental points by grading the size of the type is valuable to the novice and physician. It is with some regret we see the beautiful black and white muscle drawings now appear bedaubed with red. Although less artistic, this may be more impressive to the student's eye.

There is one very important subject lacking. We have always felt that no matter how excellent the anatomical descriptions the students may read, they avail little if they are unable to ee the actual parts described. It would seem, therefore, that one of the first chapters should deal with the preparation of dissecting material, the best methods of caring for it during its work-out, and something of the technique of dissection.

The first section, on developmental anatomy, is a veritable appetizer, which should stimulate alike by its brevity and clearness to forage further.

A large section devoted to clinical and topographical anatomy is of particular interest to the practitioner.

W. H. Field.

GARRISON'S HISTORY OF MEDICINE.

AN INTRODUCTION TO THE HISTORY OF MEDICINE (with Medical Chronology). Suggestions for Study and Bibliographic Data. By Fielding H. Garrison, A. B., M. D. Third Edition, revised and enlarged. Phila. and London, W. B. Saunders Co., 1921. 942 pages, illustrated. 8vo. Cloth, $9.00.

Nobody interested in the history of medicine can have failed to be charmed and illuminated in the reading of Dr. Garrison's work, now in its third edition. This book, while it may not be as comprehensive in all respects as those of Baas, Haeser and Max Neuberger, is nevertheless one of the most reliable and important contributions on the subject in existence, especially for English readers. Its wealth in portraits of distinguished physicians and scientists adds much to its inherent value; for who can deny the fascination of seeing the faces of the great men who have been influential through the centuries in the making of medicine what it is today. In this third edition the author has brought his subject up to date without altering the general plan of the work.

The book is an octavo of 942 pages, including the index. It contains a History of Medicine, Medical Chronology and Suggestions for Study and Bibliographic Data. This arrangement renders it particularly useful for a busy doctor, who desires to get at facts with the least expense of time and energy; and it is of distinct advantage to medical students on the threshold of their chosen profession.

We regret that in the paragraph devoted to medical libraries (p. 721), the author has failed to mention the Library of The Medical Society of the County of Kings, which stands fifth in number of volumes and pamphlets in the United States. This doubtless was an oversight which we hope will be corrected in the next edition.

Dr. Garrison's work should be in the library of every physician in the country, not only for its educational value, but also because it is replete with delightful sketches of "lives worth while," which afford entertainment for odd hours of relaxation in our busy lives.

J. M. Van Cott.

alert observer and he readily appreciates the necessity of bringing a textbook up to date.

It would be a useless task to go into detail regarding the many changes the work has undergone since the first edition, for in this, the fourth, one will find included the latest thought and observations in dermatology.

W.

A GUIDE TO URINARY DISEASES.

A GUIDE TO URINARY DISEASES. By Adolphe Abrahams, O. B. E., M. D., and A. Clifford Morson, O. B. E., F. R. C. S. (Eng.). London, Edward Arnold & Co., New York, Longmans, Green & Co., 1921. 120 pages. 8vo. Cloth, $3.00.

This book is a small volume of slightly over a hundred pages, written jointly by a successful internist and surgeon.

The authors review the general subject of genito-urinary diseases in brief form to enable the general practitioner to more clearly differentiate the medical and surgical lesions by the symptomatology. The subject of treatment is concisely outlined.

The general arrangement of the work is excellent and should prove helpful to the busy practitioner. The reviewer finds nothing particularly new in its pages.

AUGUSTUS HARRIS.

INSANITY AND MENTAL DEFICIENCY IN RELATION TO LEGAL RESPONSIBILITY.

INSANITY AND MENTAL DEFICIENCY IN RELATION TO LEGAL RESPONSIBILITY. A Study in Psychological Jurisprudence. By William G. H. Cook, LL.D. London, George Routledge & Sons; New York, E. P. Dutton & Co., 1921. 192 pages. 8vo. Cloth, $4.00.

On the question of criminal responsibility of the insane the medical and the legal profession have at times taken divergent views. This is due entirely to the attitude of the professions towards the subject. The doctor necessarily looks to the welfare of the patient. Each case for him is individualized. On the other hand, the legal profession looks to the welfare of society and many times for its protection it ignores the consequences to the individual. Because of this, insanity recognized by law as an excuse for crime is very limited as compared to insanity as a disease recognized by the physician.

In civil matters there is not this marked distinction. Insanity, if it exists, may affect the various relationships and responsibilities in life. The law acts upon the presumption that every man knows and is responsible for his acts. The insane man may not realize what he is doing or appreciate the consequences of his acts, and if he does not, the law makes allowances.

Mr. William G. H. Cook, in his recent book entitled "Insanity and Mental Deficiency in Relation to Legal Responsibility," has given a brief review of the law upon this subject. He says in the introduction: "It is remarkable, moreover, that while the law relating to the criminal responsibility of lunatics has reached a comparatively advanced stage and that definite rules have been laid down for the guidance of courts when dealing with cases in which the person convicted of crime pleads insanity, no such precision exists in regard to civil responsibility."

It is to this question of civil responsibility when insane that the author addresses his attention. With the varying degrees of insanity he does not attempt to deal as with the physician. He starts with the assumption that the party is insane to such an extent as not to appreciate his act any more than would an infant of tender years. Under such conditions the law has attached varying responsibilities, according to the courts and country in which the law is administered. On the whole, the law is very much the same, with some exceptions. Thus the American authorities are agreed that persons non compos, as well as children without discretion, are not responsible for their torts where intention is a necessary element of liability. But infants and lunatics are liable in a civil action for damage caused by such torts as would, in sane adults, amount to a tort of either wilful wrong or culpable negligence. On the other hand, the English authorities have not gone quite so far.

His conclusion is that the English law is better, in that it holds that an insane person is not liable for negligence. The case of Williams *v.* Hayes, reported in 42 American State Reporter 743 (143 N. Y. 442) is responsible, says Mr. Cook, for the erroneous views taken by the American authorities, as well as the Dominion of New Zealand.

The basis of the American rule is that where one of two innocent persons must suffer, the one causing the injury should bear the responsibility. This is the practical rule which has worked out fairly good results under the administration of justice in the American courts, although it is not logical in its conclusion. If an infant or an insane man can do no wrong, why should he be mulcted even in damages? He is not punished criminally. The answer to the question from the American point of view is that public policy requires that the insane person should pay the damage which he unintentionally has caused to an insane party. It is a rule of the courts.

Mr. Cook has reviewed the authorities bearing upon insanity as a defense upon an action for contract, insanity in its effect upon marriage and divorce and insanity as bearing upon the capacity to make a will. As to these subjects, there is very little divergence among the various authorities and a review of them cannot be stated any better than Mr. Cook himself has stated it. His work is not a treatise or a discussion, but a collection of these authorities and a statement of the law. He does not attempt to impress his own views or set forth any proposed or radical change. His book of 160 pages includes much valuable matters and covers a wide range. It will be of great use to the legal profession, bu tmuch of it, we fear, little understood or appreciated by the physician.

DISEASES OF THE SKIN.

DISEASES OF THE SKIN. By Richard L. Sutton, M. D. Fourth Edition, revised and enlarged. St Louis. C. V. Mosby Company, 1921. 1132 pages, 969 illustrations and 11 colored plates. 8vo. Cloth, $9.50.

The rapid succession of editions, the book first appeared in 1916, speaks more eloquently for the excellence of the work than could the most analytical review. The author is a very cludes much valuable matter and covers a wide range. It will be of great use to the legal profession, but much of it, we fear, little understood or appreciated by the physician.

F. E. C. AND E. E.H.

FOOD PRODUCTS: THEIR SOURCE, CHEMISTRY AND USE.

FOOD PRODUCTS: THEIR SOURCE, CHEMISTRY AND USE. E. H. S. Bailey, Ph.D. Second Revised Edition. Phila., P. Blakiston's Son & Co., 1921. 551 pages, 92 illustrations. 12mo. Cloth, $2.50.

This is not a book on dietetics, but is intended to give information upon the origin, chemical composition, method of preparation for market, and a brief description of manufactured products made from the original foods.

It gives a brief description of individual foods for general information rather than for practical application to dietetics.

An immense amount of information has been collected and, where possible, statistics as to production have been furnished,

Owing to the adoption of the eighteenth amendment, the author in this second edition has condensed the chapters on the brewing, wine and alcohol industries and has added new material on the animal and vegetable oils, cereal products and nuts.

Very little is said of the newer knowledge of the vitamines. The antiscorbutic vitamine is not mentioned at all.

The appendix contains the text of the Federal Pure Food Law, a very complete table of the composition and thermotic value of foods.

A good index makes the contents of the text readily accessible.

E. H. B.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

THE ORIGIN AND PROBLEM OF LIFE: A PSYCHO-PHYSIOLOGICAL STUDY. By A. E. Baines. New York, E. P. Dutton & Co., 1921. 97 pages, illustrated. 12mo. Cloth, $1.60.

PRINCIPLES OF MEDICAL TREATMENT. By George Cheever Shattuck, M. D., A. M. Fifth Revised Edition. Boston, W. M. Leonard, Inc., 1921. 300 pages, interleaved. 8vo. Cloth, $3.50.

COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINNESOTA. Edited by Mrs. M. H. Mellish. Vol. XII, 1920. Phila. and London, W. B. Saunders Co., 1921. 1392 pages, 446 illustrations. 8vo. Cloth, $12.00.

THE LIFE OF JACOB HENLE. By Victor Robinson, M. D. New York, Medical Life Co., 1921. 117 pages. 8vo. Bound in boards, $3.00.

SANITARY ENTOMOLOGY; THE ENTOMOLOGY OF DISEASE, HYGIENE AND SANITATION. Edited by William Dwight Pierce, Ph.D. Boston, Richard G. Badger, 1921. 518 pages, illustrated. 8vo. Cloth, $10.00. ,

PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D. Series 1921, Vol. IV, Pediatrics, edited by Isaac A. Abt, M. D., with the collaboration of Johanna Heumann, M. D., Orthopedic Surgery, edited by Edwin W. Ryerson, M. D., with the collaboration of Robert O. Ritter, M. D. Chicago, The Year Book Publishers. 306 pages. 12mo. Cloth, $1.75.

MANUAL OF PRACTICAL ANATOMY. A Guide to the Dissection of the Human Body. By Thomas Walmsley, Professor of Anatomy, Queen's University, Belfast. Part II. The Thorax and Abdomen. London and New York, Longmans, Green & Co., 1921. 233 pages, illustrated. 8vo. Cloth, $3.25.

A POCKET SURGERY. By Duncan C. L. Fitzwilliams, C. M. G., M. D. New York, Longmans, Green & Co., 1921. 348 pages. 12mo. Cloth, $3.75.

MANUAL OF DISEASES OF THE STOMACH. By William Maclennan, M. B., with the assistance of J. Salisbury Craig, M. B., Ch.B. New York, Longmans, Green & Co., 1921. 392 pages, illustrated. 8vo. Cloth, $7.50.

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The Operative and Mechanical Treatment of Bowlegs.

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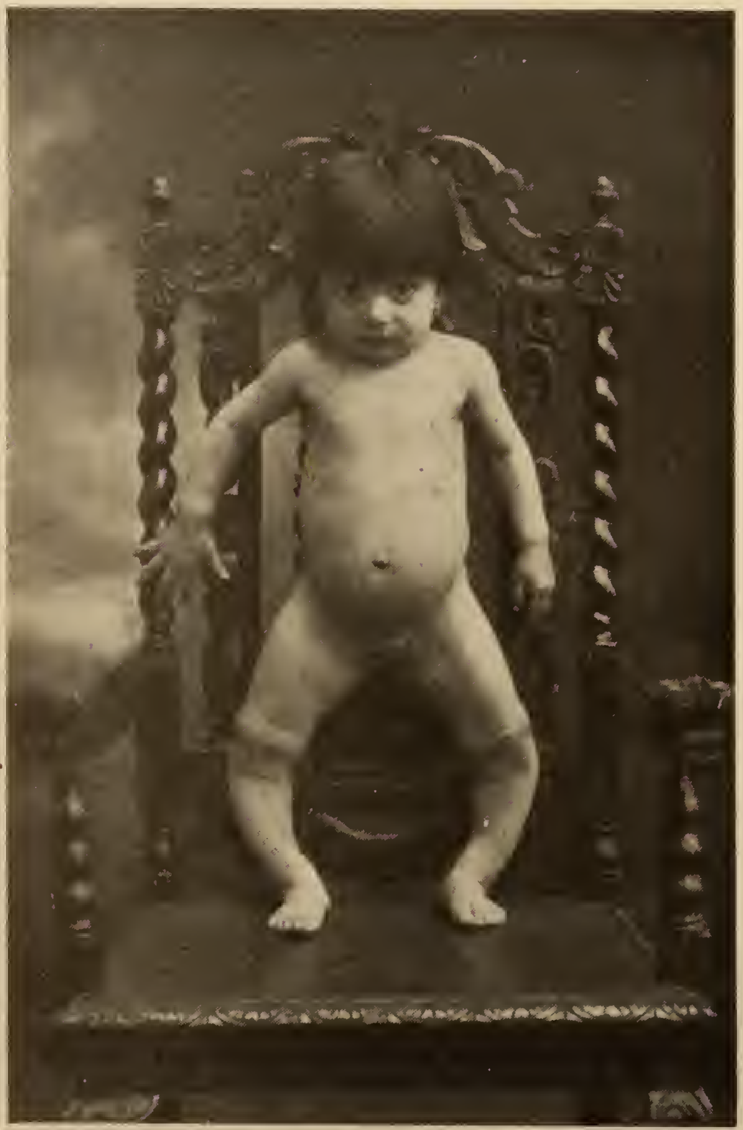
Brooklyn, New York.

I AM going to ask your indulgence for taking up a subject, so common to many of you, but so many cases of this condition are brought to me where the case has been either neglected altogether, till the patient is 15 or 16 years of age, or where the treatment has been started correctly, but has not been followed through, that I think some of the cardinal points of treatments should be brought to your attention.

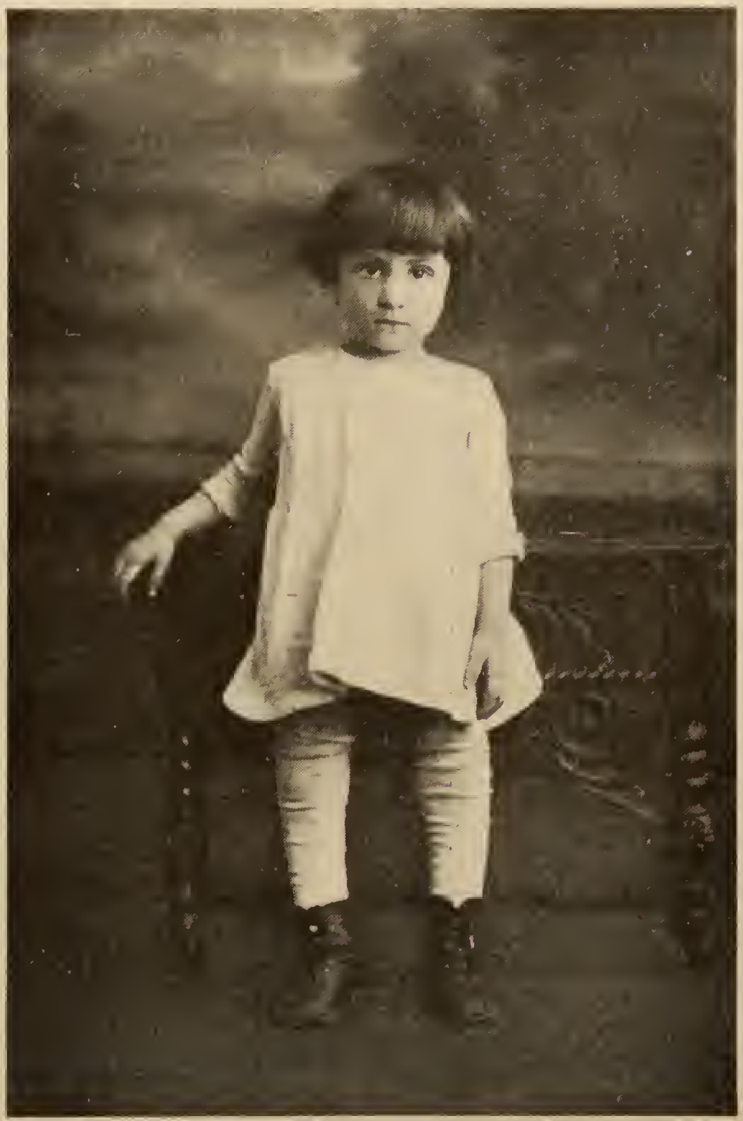
It is outside my province in a paper such as this to take up the causation of this condition. Suffice it to say that the case is brought to you with the diagnosis clearly established. There is generally a history of the child walking early and the mother noticing soon after the well-marked bowing of the legs, which becomes more and more exaggerated as time goes on. The lady next door has no doubt told her to "leave the child alone and he will grow out of it," so, thus reassured, the mother allows a few months more to go by, until the bowing is firmly established.

Before attempting treatment in these cases, it is best to ascertain to a certainty just where the bowing exists, whether it be in the tibia or femur, or both. This can best be done by an X-ray, though by stripping the child and standing him on a table before you one can usually decide just where the curve lies. Most bow legs are caused by a deviation in the shaft of the tibia, the fibula being bowed correrespondingly. Next grasp the leg with both hands and test its strength, note the ease or difficulty in attempting to straighten. I am usually able to tell in this manner whether mechanical or operative treatment is indicated. In my clinic work at Brooklyn Hospital I have a rule which is applicable in the great majority of these cases. If the child be under 2 years of age and the mother be intelligent, I advise braces. If over 2, operative procedure, whether it be osteoclasis or open osteotomy.

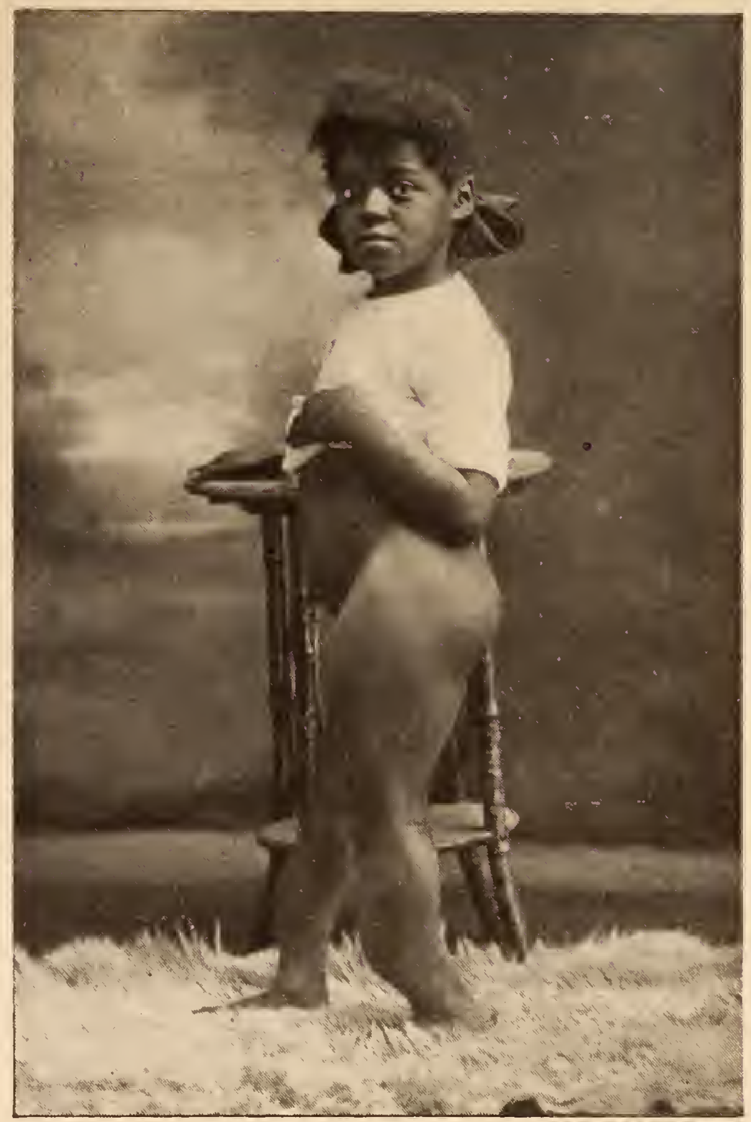
And now as to the selection and measuring for the brace, if this be deemed a suitable case for braces. In my opinion the simpler and



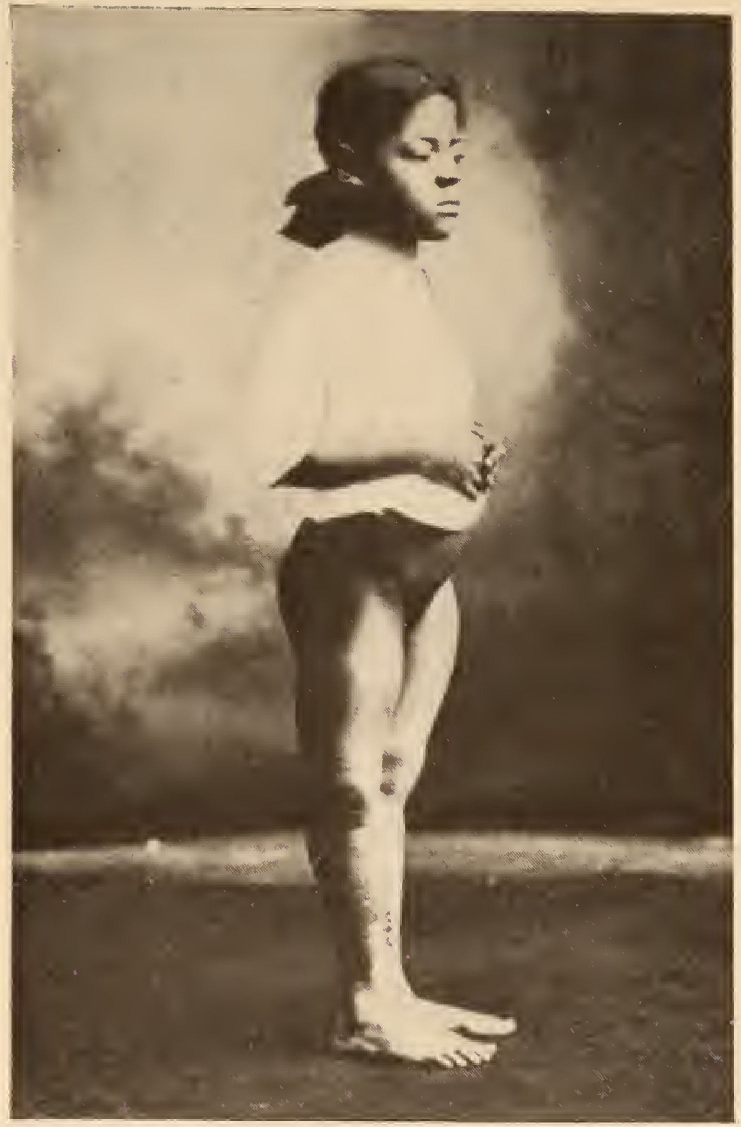
Bowlegs before operation.



Same case one year after osteotomy of tibia.



Anterior bow legs with Sabre deformity



Same case after open osteotomy, drilling and retaining fragments with kangaroo tendon lighter the apparatus for correcting the deformity the better. I have used for several years a short leg brace with an inner iron extending from inner tuberosity of tibia down to heel of shoe, where it is bent at right angles to fit into a metal cylinder built in the heel. To this is attached a wide leather flap, which is laced, pressing the tibia towards the inner bar. The mother is cautioned to keep the flap lacing increasingly tight, and in from a year to a year and a half the brace will have straightened the limb and may be discarded. The shoes should now be altered to prevent a recurrence of the condition. This is best done by building up the sole about one-eighth inch thick on its outer side. Care must be used and frequent examinations of feet are necessary to be sure that you do not cause a flat foot.

Of these cases which are too rigid to be corrected by braces, two operations may be used, viz., osteoclasis or breaking the bone bimanually, or osteotomy, viz., chiselling through, or partly through, and correcting by manipulation. Osteoclasis is best performed over a Lorenz wedge, which is a block of wood shaped like a blunt wedge and covered with leather. The leg is held by the operator, with the greatest part of the convexity over the wedge. Pressure is then brought to bear until a green stick fracture is produced. The deformity is corrected, it generally being necessary to fracture the fibula before complete correction is secured. The leg is then put in plaster, having a well-padded reinforcement of wood incorporated in it on the inner side, and to which the leg is tightly fixed. Plaster is kept on for eight weeks, and on its removal braces are best worn for six months to guard against a recurrence, though if the shoe be altered as mentioned above, viz., raised sole and heel on outer side one-eighth inch, braces will not be required.

We now come to that more difficult type of bow legs—the anterior variety, or so-called sabre deformity. In my experience these are not treated successfully by means of braces, nor is it possible to correct them by osteoclasis. We usually find the anterior border of the eibia lengthened and the tendo achillis shortened, and it is necessary to do an open osteotomy of tibia, removing a wedge, with its base anterior. The tedo achillis will have to be tenotmized, and the correction can then be brought about. Sometimes it will be necessary to chisel through the fibula also, as it may act as a splint, preventing correction. If this be done, it is best to fix the tibial fragments by means of drilling the proximal and distal ends and tying with kangaroo tendon. The periosteum is closed in the usual manner by means of O chromic gut, with plain catgut in the skin, the limb being then put in plaster for six weeks, care being taken that the foot is brought up to a little more than a right angle.

The Feeding Method of the Von Pirquet School.

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IT is important to divide this subject into two separate parts. The first part to deal with the Pirquet Method of estimating the food required for the daily consumption for a given patient, which method has been named the *"Nem Method."* The second part to deal with special food formulae as employed by the Pirquet clinic.

First Part—It may be advisable at the outset to state that the "Nem" system does not designate any special food or formula for the feeding of the infant or child. It does not designate how much fats or carbohydrates or proteids the child should get. It simply is a means of estimating and calculating the amount of nutrition the prescribed food formula shall contain. It may also be in place to note that this method is not only applicable for the feeding of children, but that it may be utilized for the feeding of adults, as well as for premature infants.

While to review all that Pirquet has written in his four volumes of Pirquet's System der Ernahrung[1] would indeed be time well spent; but for the limited time allotted to us this evening, the essential principles only, of this feeding system will be discussed.

Pirquet laid down a few fundamental principles which he has carefully worked out and which must be followed in order to intelligently be able to employ his feeding system.

Firstly:—That whatever food we employ, we must compare its nutritive value with that of *mother's milk*,—the basic food.

The author argues that Mother's Milk, which answers necessarily to all body requirements for the growing child, during its first year of existence, must consist of correct and proper food constituents, hence the term "Nem," which is composed of the first letter of each of three words and which read "Nahrung Einheit Milch" (Nutrition similar to Milk), or, "Milk Nutrition Value"—Nobel.

Secondly:—The amount of food one requires and will be able to assimilate in the course of twenty-four hours is in exact proportion to the square *surface* of one's intestinal tract. If food in excess of this quantity be ingested it will not be absorbed, but it will pass out of the intestinal canal as so much waste matter.

Thirdly:—The square surface of the intestinal canal can be obtained from the "Sitz-Höhe" or the "Sitting-Height" of the given patient.

Studying the various measurements of the digestive tract as worked out by Vierordt,[2] Gundobin,[3] and others, Pirquet came to conclusion that the Square Surface of the intestinal canal is equal to the Square of the Sitting Height.

The "Sitz-Höhe" (Sitting-Height) is obtained by measuring the distance from the surface the patient sits upon to the topmost part of his skull (Patient sitting undressed). In the case of an infant, it is best to lay the patient on its back, the thighs flexed, with buttocks against a fixed board, measuring from this board to the top of the patient's skull, employing the metric system.

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*Read before the Medical Society of the County of Kings, at its joint meeting with the Brooklyn Pediatric Society, October 18, 1921.

The Rule:—Sitting Height square ("Siqua"), is equal to the square surface of the intestinal canal.

Fourthly:—According to the Vienna School, it matters little what food we choose for our patient as long as the food contains as many "Nems" as the number of square centimeters of the patient's "Sitz-Höhe." The food quantity being weighed in the Metric System, one gram of Mother's Milk, *the basic food,* is equal to one "Nem," which is our measure.

That the prescribed food shall contain at least 10% and not more than 20% of Proteids is the only condition that the author makes.

The author goes further and says that the "Nem-worth" of every individual is not absolute, but varies between a *maximum* and a *minimum* level. The latter being the quantity of food that the individual requires when he is at a state of rest, in bed and kept warm. This figure is 3/10 Nem or 3 Decinem "Siqua." This measure may be recommended at certain times when body exercise is very limited or when it's necessary to give the digestive tract a rest, and only for a limited time. The former is 1 Nem or 10 Decinem "Siqua," which means so many Nems per the number of square centimeter of the patient's Sitting-Height. This amount of food is not usually employed, only in exceptional instances and when putting on of weight is essential. There is a point between these two extremes which the author has named the "Optimum" scale, and which is an arbitrary point. This is between 5 and 7 Decinem "Siqua" (Patient's Sitting-Height Square). This measure is the one recommended by the author for the average case and includes 3/10 minimum, plus 1/10 for exercise, 1/10 for growth and 1/10 for taking on of weight, which makes a total of from 5 to 7 Decinem "Siqua" (5/10 to 7/10 Nem of Patient's Sitting-Height Square).

With this method of feeding one need not guess how much food a given child needs, nor do we measure the food requirements according to the *age* of the child. The aim of the author was to work out a scientific and at the same time practical method which would be easily understood by the laity as well as by the doctor.

Pirquet contends that the term calory is strange to the average mother, and therefore she is not apt to be interested and not apt to carry out our orders. With this system, however, we tell the mother, after we have calculated the quantity of food required, "*give* as much food as is equivalent to a litre of milk"—the basic of food—for instance. She immediately forms in her mind a concrete idea. She knows exactly what a litre of milk looks like, and will therefore take an active interest in the feeding problem of her child. Furthermore, Pirquet claims, we must acknowledge it being a fact, that the feeding of children after one year of age, largely depends upon the appetite and whim of the child or its mother. That very few children are still getting the correct number of *calories* after the end of the first year of life. From then on only the quality of its food is being considered, but not the quantity. This statement, we must admit, carries a good deal of truth. The usual directions to the mother are, "give the child *some* vegetables, *some* bread, *some* meat," leaving out the quantity.

Not alone is this method applicable for the feeding of a single individual, but is also adaptable for the feeding of large groups of children. The American Relief Administration, which has for its sacred object the feeding of 400,000 children in Austria, is employing this system with excellent results. Nobel has employed it in the feeding of a large army of soldiers with similar results.

Example:—For a child 1 year of age having a Sitting Height of 45 cm
His "Siqua" (Sitting Height Square) is.......... 2025
10 Decinem of his "Siqua" (the Maximum) food requirement (in round figures)............ 2000 Nem for 24 hrs.
7 Decinem of his "Siqua" (the Optimum) food requirement .... 1400 " "
3 Decinem of his "Siqua" (the Minimum) food requirement .... 600 " "

Knowing his food requirement (the number of Nems), the rest is a matter of arithmetic; after we have decided upon the form of food we wish to give to our patient. If it be milk we decided upon, it would be quite simple:

One gram of milk being equal to one "Nem," it follows that the patient needs:

2000 grams of milk for the Maximum figure, for the 24 hours.
1400 grams of milk for the Optimum figure, for the 24 hours.
600 grams of milk for the Minimum figure, for the 24 hours.

This would be quite simple, if we were always concerned with milk and no other food. When we choose to give the patient some other form of food, we must calculate its food value by comparing *it* to that of *Milk* (finding its Nem-worth in the Pirquet table, prepared for this purpose). For example—one gram of Farina is equal to 6 Nems. In order to substitute Farina for 6 *grams of milk* we would only have to give *one gram of Farina,* which is also 6 Nems.

Example of menu for child 6 years of age, whose "Sitz-Höhe" (Sitting-Height) is 60 cm.:
His Siqua is 60^2, 3600.
Food required—7 Decinem Siqua (7/10) 2520 Nem (Optimum figure).

In round figures, 25 Hekto Nem is the daily requirement.
100 Nem=1 Hektonem (HN)

The child receives:—
5 meals. 25 HN (Hektonem) Figures denote number of grams.

8 A. M	7	Bread 30	Milk 100	Milk 100	Egg 1	Butter 8.5	Butter 8.5	Sugar 17
10 A. M.	2	Bread 30	Marmalade 30					
1 P. M.	7	Bread 30	Meat 40	Meat 40	Potatoes 80	— 80	Pudding 30	Spinach 150
4 P. M.	2	Cocoa 100	Cakes 50					
7 P. M.	7	Egg 1	Bread 30	Butter 8.5	Butter 8.5	Cheese —	Fruit 1.75	Milk 100

The objection for weighing every article of food is soon overcome when the mother becomes accustomed to the quantity required or by *measuring* instead of weighing (in a vessel of known quantity).

There is a time when we may decide to feed the patient on Milk, but in concentrated form, so that each gram shall be equal to, double or one and one-half times plain, whole milk, then enough sugar or flour is to be added to the required amount. In other words, the child will then receive 500 grams of Milk, which is equal to twice the number of Nems of plain milk, made so by the addition of such article as sugar or flour to the required amount. Such feeding is spoken of as "double nutrition" ("Dopple Nahrung").

When it is so concentrated that each gram is equal to 1½ Nem we speak of it as "Sesquibo," or Food, that is of "*one* and a half nutrition."

Example:—

(1) Milk 500 grams (½ litre).... 500 Nems (Equal nutrition) (Sibo)

(2) Milk 500 grams plus 65 grams of sugar. 1000 Nems (Double nutrition) (Dubo)

(1 gram sugar—6 Nems).

Milk 500 grams plus 41.6 grams of flour equals 750. Nems (one and one-half nutrition) (Sesquibo)

Second Part:—Perhaps the most radical move that Schick has made was in the feeding of premature infants and new born. Schick's observations on the feeding of the new born led him to the conclusion that the vomiting during the first, second or third days of life is physiologic and therefore not a contra indication to feeding; the baby will not refuse the breast if fed artificially while waiting for the mother to get her breast secretion.

To quote Schick:[4] "The child should not be expected to pay with starvation for the price of learning how to nurse on the breast."

Owing to the fact that the absorbing surface of the digestive tract is very small *at birth,* the baby must, therefore, be fed very concentrated milk in small quantities, 10 grams at a time, every 2 hours. He argues that the premature can ill afford to stand weight loss while waiting for a sufficient supply of mother's milk; it is necessary to feed that baby on concentrated food, and frequently. He begins with human milk plus 17% cane sugar, quantity depending on the individual baby's "Sitting-Height." Mother's milk usually contains 6.7% sugar, and if we add to it 17% more, that gives us a milk that contains about 24% sugar, ordinarily considered an enormous sugar content. The author does not fear these enormous sugar feedings.

Schick writes on this subject:[4] "After feeding this way 62 premature infants, I have lost all fear for the concentrated sugar and milk mixtures." (This was written over a year ago). He does fear the low proteid content, hence, he recommends, if concentrated feeding must be continued for a long time, it should be done with cow's milk, which has a larger proteid content (cow's milk has 3.2% of proteid, whereas mother's milk contains only 1.7% proteid).

Example:—A new born, weighing 1600 grams; its Sitting Height is 26 cm.

The Sitting Height Square would be 676.3/10, or 3 Decimen Siqua= 200 Nem (round figures).

100 grams Milk =100 Nem
17 grams Sugar=100 Nem
Total 200 Nem.

The same principal of feeding small, concentrated feedings is employed for cases of severe vomiting and also for Pylorospasm, as well as in similar cases where we feel that the patient will not tolerate large quantities of food; we then give small, concentrated feedings, from 10 to 12, during the 24 hours.

All the new born children in the Schauta Clinic are started on such mixtures, supplementing mother's milk until the end of the first week, when the mother gets sufficient milk in the breasts.

The important point the Vienna School makes is that the food should be administered in as concentrated a form as possible.

In the treatment of Scurvy, Nobel[5] makes the statement that feeding these cases on concentrated food, even though antiscorbutics, such as orange or potato juice, was not part of the diet, these cases did rapidly improve and the symptoms of Scurvy disappeared readily.

I have seen several severe cases of Scurvey treated, by Schick, with boiled milk to which has been added 17% of sugar, and the child rapidly improved. These children have not received any orange juice. Schick makes the point that the important factor is the *change of diet* and *enough* should be given of whatever food we may choose.

For a premature weighing 1600 grams, with a Sitting Height of 29 cm., would be given the minimum 3/10 Siqua, which equals 252 Nems, in the form of human milk—130 grams plus 22 grams of cane sugar. This formula is divided into 12 meals for the 24 hours, giving a total of 250 Nems.

(Milk—130 grams=130 Nems)
(Cane Sugar—20 grams=120 Nems)
250 Nems.

I have seen children fed on fat-free diet, carbohydrates taking its place.

Professor Pirquet has "coined" a new lexicon which has more "objectors" than admirers. The author does not insist that this new nomenclature must be employed in adopting his feeding system. One must, however, regard these new terms as helpful tools especially adapted for the carrying out of a new piece of work. One can get along without them, but the work is greatly facilitated with them.

Some of the terms are as follows:—

Sibo—(Simplex Bovinum) Whole Milk, 1 gram=1 Nem.

Siqua—(Sitz-Höhe Quadrat), Sitting Height Square.

Dubo—(Duplex Bovinum), Whole Milk and 17% Sugar, 1 gram=2 Nem.

Duma—(Dopple Nahrung made of Skimmed Milk and Sugar), 1 gram =2 Nem.

Dufa—(Dopple Nahrung made of Milk and Farina), 1 gram=2 Nem.

Dufama—(Dopple Nahrung made of Skimmed Milk and Farina), 1 gram=2 Nem.

Kuhrog—(Whole Milk and Cane Sugar), either as Simple Nutrition or Double Nutrition.

It may be advisable in closing to mention the fact that those other men in Vienna, who, even though they have not as yet adopted the Nem Feeding System in their institutions, do, however, indicate on their bedside charts the food requirements in terms of Nems and then convert these into calories. (One Nem—.65 calories.) This I have seen on the charts in the Wilhelminaspital, as well as in the *Reich's Anstalt,* although the men of both of these institutions are outspoken enemies to the "Nem System."

RESUMÉ

This feeding system of the Vienna School, especially for the prematures, is somewhat new, but at the hands of our colleagues abroad it has proved successful, and therefore deserves a trial at our child institutions. While the figures and measurements that are involved with the Nem System of Feeding is somewhat confusing at first, it should be stated that this becomes routine and very simple after one becomes accustomed to its use and acquainted with the marvellous tables the author has prepared for this purpose. The average nurse can do all the figuring after a short practice. Although no English translation of Pirquet's original work has as yet been published, the work has been translated and will be published in the near future.

A fair idea of this subject, I hope, may have been gained from what we attempted to tell in brief this evening.

It might be suggested that some of the men who have a large number of infants on their service might take the initiative and introduce this method of feeding on a large scale in this country, and thus give it a fair trial, and report the results to the American profession.

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TABLE OF FOOD ARTICLES AND THEIR NEM WORTH.

(Figures on right-hand side denote proteid content.)

Nem in 1 gram		
12	Butter	(0)
9	Nuts	(1)
8	Salomi	(2)
6.5	Chocalote	(0)
6	Sugar	(0)
5	Condensed Milk, sweetened.	(1)
	Cheese	(4)
	Meat, fat	(2)
	Bologna	(3)
	Shell Fish	(9)
	Zweibach	(1)
	Rice	(1)
	Honey	(0)
	Flour	(1)
	Syrup	(0)
4	White Bread	(1)
	Dates	(.5)
	Raisins	(.5)
5	Sardines	(5)
	Rye Bread	(1)
3.3	Cream	(1)
	Herring	(5)
	Mushrooms	(3)
	Jam	(0)
	Puddings	(1)
2.5	Egg	(3)
	Chestnuts	(1)
	Fresh Fruit	(4)
2.5	Smoked Fish	(3)

.5	Beans	(2)
	Carrots	(1)
	Onions	(1)
	Spinach	(3)
.2	Asparagus	(2)
	Tomatoes	(2)
	Solot	(2)
	Pickles	(2)
.1	Meat Broth	(3)
1	Mother's Milk	(1)
	Cow's Milk	(2)
	Green Peas	(2)
	Grapes	(5)
	Bananas	(5)
	Figs	(5)
2	Liver	(5)
	Kidney	(5)
	Lean Meat	(6)
1.5	Brains	(3)
1.25	Potatoes	(.5)
	Fresh Fruit	(5)
.6	Fruit Juices	(0)

Gastric Distress in Gastroptosis.*

CHRISTIAN W. JANSON, M. D.
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IN presenting this case before the Clinical Society for its deliberation, the idea mainly in view is to consider whether or not the cause of the gastric distress should be based upon one of three factors.

A. The distress of the gastroptosis *per se.*

B. Is there a superimposed gastric neurosis present, or,

C. Should the patient's mental condition warrant the diagnosis of neurasthenie gastrica with the gastroptosis?

I will give a brief summary of the case:

Case no. 15945, a female, 65 years old, married, mullipara, was admitted to the hospital on October 13, 1921. Her chief complaint was a burning sensation in the umbilical region, awakening her during the night, generally about 3 A. M., and continuing until the following morning. She was worried about her loss of weight, about fourteen pounds in two years, and her lack of energy.

The family history shows that her mother died at the age of 70 of some kind of womb trouble. Her father, at 69, of a questionable diabetic gangrene, and one sister, at 21, of smallpox. Four brothers and three sisters living and well.

She dates her present illness to an influenza attack two and one-half years ago. The influenza symptoms, chiefly of the head and chest type, subsided quickly, and thereafter she noticed a continual nausea present.

In the beginning it felt as if a lump traveled for a short distance up and down her oesophagus. This was followed by a pyrosis, which always nauseated her, although she never vomited. Food distressed her and she became afraid to eat, although no particular food affected her, and there was no relationship as to the time of the ingestion of the food. Her bowels were always in fair condition, but lately have become constipated. Specific history denied.

Physical examination showed a poorly nourished and developed female of about ninety pounds.

Head, negative. Eyes, pupils react to light and accommodation; sclera somewhat jaundiced. Neck, pulsations synchronous with apex beat. Lungs, normal resonance; breathing and voice sounds normal, no rales. Heart, sounds of rather poor quality, no murmurs. Abdomen, typical habitus enteropticus; somewhat depressed above the umbilicus and somewhat distended below. Both recti muscles do not relax very easily. Greater curvature of stomach outlined two fingers below the umbilicus; no masses felt. The skin wrinkled, very dry and scaly. Kidneys and spleen not palpable. Liver, normal. Extremities, normal. Vaginal and rectal examination, negative.

A provisional diagnosis of gastroptosis as the cause of her gastric distress was made.

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*Read before the Clinical Society of the Wyckoff Heights Hospital, Brooklyn, N. Y., November 29, 1921.

The *Laboratory Findings* were as follows:

The first Ewald test meal could not be expressed in one and one-half hours' time, there being no residue.

The second test meal, on the following morning, within one hour of ingestion ret,urned 50 c.c. of a thick, heavy flocculent, opaque white residue, normal in color. Total acidity, 60. Free Hcl., 30; combined, 18. Lactic acid, negative. Occult blood, a trace. Microscopical, small amount of bacteria, occasional leucocytes and epithelial cells. No blood cells seen. Much mucus.

Blood examination: Haemaglobin, 80%; reds, 4,130,000; whites, 7,000; Poly, 47%; lymphocytes, large, 40%; small, 13%. Color index, .98. Blood pressure, systolic, 125; diastolic, 65. Urine examination, 1026, straw-colored, acid, faint trace of albumen. Sugar, negative. Indican, negative. Micrscopical, leucocytes and occasional epithelial cells.

Roentgenologist's report:

Immediate picture of stomach, taken in the horizontal position, shows the stomach fish-hook form: large size; ptosis; greater curvature below the interspinous line; contour regular; duodenal cap triangular in shape, normal position, slight irregularity in contour. Confirmed by plate 15 min., also by lateral plate.

Six-hour picture shows a very small residue in the stomach. Head of the bismuth column in the hepatic flexure; tail in the ileum.

Twenty-four-hour picture shows the colon filled from the caecum to the hepatic flexture. Descending colon partially filled.

Roentgen diagnosis: Gastroptosis.

This completes our picture, the diagnosis of gastroptosis with the gastric distress being the predominating symptom. Now, let us go into the treatment.

In the beginning, the usual routine treatment for gastroptosis was carried out. Rest in bed. Easily digested foods, with restriction of fluids at meal times. Tonics to increase the tonus. Gastric lavage every morning. Breathing and gymnastic exercises. A Rose belt was applied, but with all of these her gastric distress continued.

On the fifth day after her admission I did a duodenal intubation, thinking it would help to clear up the slight jaundice, and incidentally, through the disinfection of the gall passages, to dispel the burning, nausea sensation. The jaundice disappeared, but the distress remained. She was somewhat relieved for a few days after the ingestion of bismuth and buttermilk during the X-ray routine; but then return of the symptom, with, perhaps, greater intensity.

All these methods were used with the idea that the gastric distress was concomitant with her gastroptosis.

I considered the possibility of a gastric neurosis superimposed upon the gastroptosis, inasmuch as the X-ray plates showed a large stomach and a small rest in the six-hour plate. Could the hypomotility alone or a hyperesthesia cause the distress?

Dilute hydrocyanic acid, in drop doses, was given for its anodyne affect. Bromides were added. Still the patient complained of nausea or burning, as she explained her gastric distress, and wanted relief for lack of sleep. I endeavored to gain every assistance by both general and local means to soothe the nerve irritability, but without result.

I naturally was led to consider another channel to establish the cause of the distressing symptom, the possibility of neurasthenia gastrica with the gastroptosis. The patient's mental attitude struck me as peculiar from the very beginning. Whenever I visited her bedside, she referred her symptoms to the same region, but always varied in her explanation of the kind of distress. At one time it was nausea, at another a discomfiture, again a burning, and occasionally a dizzy pain. Her facial expression was not that of pain, but rather one of those types we see in neurasthenia. She was inactive with loss of energy and narrowed mental horizon. She was afraid to eat and was weak from the loss of sleep. The general hygienic and tonic treatment, as I have already outlined, made slight impression. Codeine, the drug so often used in these cases to alleviate the fear and quiet the distress, had little, if any, influence upon her condition; in fact, she did not tolerate it well at all, and to-day, while her general condition shows some improvement, we have not succeeded in helping her gastric distress.

Let us now consider the three parts of the question propounded in my introductory remarks.

A. The distress of the gastroptosis *per se.*

Gastroptosis is defined as a downward displacement, prolapse or "falling" of the stomach, without being necessarily accompanied by dilatation. The patient suffers from inability to empty the stomach completely and from consequent gastric distress intensified after eating.

Holzknecht and Groedel have concluded that the great majority of healthy adults exhibit a condition of moderate enteroptosis, including a low situation of the stomach or gastroptosis without any subjective symptoms.

Abdominal surgeons have long confirmed the views of physicians as to the frequency of gastroptosis.

In this particular case, the gastroptosis is confirmed by X-ray diagnosis. The slight dilatation and slight hypomotility were also evidenced by the X-ray picture. The dilatation and gastroptosis were confirmed by the passage of the stomach tube, estimating somewhat closely the greater curvature of the stomach in a position about two fingers below the umbilicus. But the hypomotility could not be confirmed by the test-meal technique, inasmuch as the stomach had apparently expressed itself completely within one and one-half hours after the first test meal, and the second test meal, expressed in one hour's time, showed the analysis given.

Stockton states that gastroptosis is usually unaccompanied by symptoms sufficiently specific to lead one to suspect its presence. This is evident from the fact that, though the condition is extremely common, it often goes unrecognized. Hence the statement the gastroptosis *per se* does not produce symptoms and that the ill health which accompanies it is the result of general conditions. Stockton believes that occasionally, but not often, delay in the emptying of the stomach and the symptoms of motor insufficiency are found to depend upon the gastroptosis. I think that this case is one where the dilatation and motor insufficiency is so slight that the gastroptosis alone cannot account for the gastric distress.

B. Is there a superimposed gastric neurosis present?

When the disturbed physiology of digestion came to be better understood, when the matter of over—or under—secretion, excessive of depressed motion, etc., became recognized, these special conditions came to be considered entities and treated as such. It is convenient to speak of over-tonicity, over-contractility, and over-secretion as vagotonic and functional atony, motor insufficiency and lowered secretions as sympatheticotonic states. One of the most common of sympatheticotonic disturbances of the stomach is that known as hyperesthesia. The late Dr. Steel of Philadelphia has shown the importance of recognizing gastric hyperesthesia. It is a local manifestation of general irritability and is comparable to general or to other local instances of hyperesthesia, manifestations of hysteria or functional weakness. After eating, the patient soon feels gastric distress, sensations of burning, weight, distension and sometimes soreness of the stomach, as if the mucus membrane were over-delicate. The victims of this trouble often become notional. Having morbid fear of eating, they restrict themselves more and more, until the hyperesthetic state is aggravated as a result of lowered nutrition from starvation. The imagination undoubtedly plays an important role in the matter, and it is not easy to distinguish the real from fancied disturbances. It is a mistake to regard these patients as merely the subject of their own fears. Important as this side of the question may be, there is no doubt but that much of the complaint is based upon actual sensations. Almost always there is an accompanying motor irritability of the stomach, and patients state that the stomach contracts painfully after eating. There is usually moderate diffuse tenderness over the abdomen, and the patients often complain of soreness in the stomach upon the introduction of the tube. The gastric secretion is not of high acidity. This description explains my case to a certain degree. The sensations of the burning, weight, distension, and soreness would lead me to think so, and particularly so when the patient has the morbid fear of eating—that fear of gastric distress, the painful sensation arousing her in early morning hours and continuing during the day. But in gastric hyperesthesit, we have a motor irritability, a painful contraction of the stomach after eating. Such is not the case with my patient. Hers is one of slight motor insufficiency. She has no diffuse tenderness over the abdomen, and introduction of the tube causes no soreness.

Kussmaul believed that the nervous manifestation produced the motor insufficiency; Glénard, the reverse. Most authorities now hold that gastroptosis plays an important part in causing nervous symptoms, so we will now consider:

C. Should the patient's mental condition warrant the diagnosis of a neurasthenia gastrica with her gastroptosis?

There remains the fact that in persons having gastroptosis and other displacements, symptoms of gastric distress, as well as nervous, hysterical or neurasthenic symptoms, are frequent, though such symptoms occur without gastroptosis, and vice versa. Gastroptosis and these symptoms belong, as a rule, to women only. If such nervous conditions depended upon gastroptosis, we would expect to find them in the few males who suffer from gastroptosis, but Bial found that of the males with the complaint 50 per cent had no subjective symptoms. For this reason Riegel believes that a suitable disposition on the part of the central nervous system is essential to the production of these symptoms.

In this patient we find a gastroptosis associated with psychic phenomena. Careful repeated examinations have disclosed evidence of a nervous exhaustion or debility, a neurasthenic condition. We find a disturbed functional activity of the stomach, without much retardation of digestion, pain and constipation. We find lack of energy, undue readiness of fatigue, disinclination to activity, impaired memory and disturbed sleep. Conceding there is a gastroptosis with a slight degree of hypomotility and dilatation, her symptoms of gastric distress seem entirely out of proportion as a symptom complex. Has the neurasthenia brought about a condition where all reserve force has been exhausted, her exhausted mind playing an important part in bringing about this gastric distress, or, vice versa, has her gastric distress played considerable havoc with her mind, with the resulting neurasthenia?

I am inclined to think the latter to be the cause, and with the treatment we are giving the patient I hope to be able to help her get rid of this miserable, painful condition.

Raw Milk in Relation to Nutrition—The Work of the Milk Commission of the Medical Society of the County of Kings.

Harris Moak, M. D.
Brooklyn, New York.

IT almost seems strange now to think that our Milk Commission has ever had to fight for the existence of a little raw milk. The enormous strides in nutritional knowledge in the last half dozen years make us see that there is an "elixir of life" in many raw foods. How this has changed our feelings regarding that word "raw"! Formerly we thought of the word "raw" as something quite unsuited for human consumption, such as raw meat or raw vegetables. We preferred the word "natural," but lost out.

We have long contended "that it is difficult for man to improve upon nature in the matter of milk." So today the word "raw" takes the new significance of a food having all of its natural vitality.

Certified milk is the only raw milk we now have in Brooklyn, and today, as ever before, it remains just a dairy specialty. It is under the supervision of medical men of your society and is used today, as in the beginning, almost entirely by your prescription.

Let me quote from studies made in 1915: "We have found that between 86% and 90% of our certified milk goes into homes for infant feeding and that the remaining 14 or less per cent goes into homes where there is sickness, and that every quart, or 100%, goes into houses upon a physician's prescription or order. This, then, is a purely medical problem and in no sense a municipal problem.

Holt has gathered statistics that show that 85% of the babies of New York City are breast fed and only 15% are artificially fed. Forty-eight thousand babies were born in Brooklyn last year. Fifteen per cent of this number is 7,200.

We are selling about 8,000 quarts of certified daily. If 85% of this is used for feeding babies, then we are feeding about 6,800 quarts daily.

Combining our own figures with those of Holt forms the conclusion that we are feeding a very high percentage of our artificially fed babies. This is in contrast to the oft-made statement that certified comprised 1% or less of our total city supply."

This was in 1915. Now in 1921 we are selling over 17,000 quarts of certified daily, and if Holt's statistics still hold good, then we can infer that children are now kept longer on certified milk.

Our Milk Commission has always urged and argued that babies must first and always have their mothers' milk, if that is possible. Our work is mainly to help out in such failures, to furnish a substitute distinctly above the average quality found in ordinary market milk.

It is here called certified milk, but certified milk, like "the rose, could be just as sweet under any other name." Some would call it guaranteed milk, some grade A milk, some selected milk. But why change the name? Certified has weathered all attacks and oppositions in the last twenty years and goes on and on in its silent mission.

Wherein does it differ from ordinary market milk? Only this spring our commission spent much time and study in rewriting our rules and regulations to bring them up to date, to condense them and leave out every useless word, and yet the subjects treated come under forty different headings. A few of the leading and distinctive requirements for certified milk are:

(1) Preliminary tuberculin test of all animals added to certified herds.

(2) Regular semi-annual tuberculin test of all herds. We are now alternating, for the most part, the intradermal test with the subcutaneous test. Last year we made 4,001 such tests.

(3) Regular monthly veterinary inspection of all cows on the farms.

(4) Thorough examination of all new employees before they begin work.

(5) Also a regular weekly medical inspection of all employees on every farm by physicians in our employ. We know of no food product that is more thoroughly guarded, and this service alone on our sixteen farms costs us over $4,000 per year.

(6) Monthly sanitary inspection of the farms and their equipment. One hundred and ninety-eight such inspections were made last year, entailing over 20,000 miles of travel.

(7) Weekly chemical and bacteriological examinations of every farm's milk and every distributor's milk. We made 950 such examinations of this milk last year. The index to the sanitary quality is well shown in the average bacterial count on these samples of 4,950 per c. c.

Our standards for quality are as follows: "Certified milk must have every characteristic of pure, clean, fresh, wholesome cow's milk. The milk must be in its natural state, not having been heated and without the addition of coloring matter or preservatives. Nothing must be added to the milk, and nothing taken away.

Certified milk shall contain an average of 4% butter fat.

Certified milk shall not contain on an average more than 10,000 bacteria per cubic centimeter when delivered to the consumer.

Some of the regular routine details carried out on certified farms and which do not obtain on ordinary farms are as follows:

(1) Men's hands washed thoroughly before beginning work and rinsed and dried after milking each cow.

(2) Cows udders are washed and dried before milking.

(3) The employees all dress in white during milking hours.

(4) Complete sterilization of all bottles, apparatus and tinware, either by steam or dry heat.

(5) The testing of the foremilk of each cow before milking.

(6) The immediate cooling of the milk to 45° F.

(7) Certified milk is bottled and sealed on the farm where it is produced.

(8) Most of the farms are now using automatic bottling and capping machines.

The studies of Hess and others have seemed to show that the age of milk affected its vitality. If this be so, then here, again, we are ahead, for certified is practically always twenty-four hours and often forty-eight or more hours younger and fresher than any other milk on the market.

Many of our farms have taken first prizes and gold medals in various milk contests throughout the country.

One of our farms a few years ago took highest honors at the Panama-Pacific Exposition in San Francisco. The samples were sent clear across the continent and when examined had a bacterial content of only 900 per c. c. But last June, as if in retaliation, at the meeting of the American Association of Medical Milk Commissions in Boston two California farms took first and second prizes.

We have brought our physical, healthful and sanitary conditions up to a high point of satisfaction.

What of the nutritional qualities of this milk? ?

We used to think of milk containing so much lactose, protein, fat, ash and water. But what an amazing change in the concept of milk today, as chemists and students of nutrition have looked further into it. What an amazing complex a molecule of milk seems today! The more we learn about it, the more remains to be solved. Yet all the evidence so far seems to show that the cow does not make something out of nothing. She simply is a "transforming station."

Realizing this, we have for many years taken much interest in what our cows eat. We have urged a wide range in the concentrates, so that today many farms mix from five to eight different kinds of feeds in one ration.

Succulents, such as green feeds, silages or wet beet pulp, are now fed throughout the year.

In the matter of roughage, especially the hay, the custom now is to sow a mixture of anywhere from three to five or six different kinds of grass seeds, and in this mixture alfalfa is now practically always included. By this process the farms have all gotten some alfalfa growing. Gradually and without the loss of the land they have gotten their fields inoculated with the bacteria necessary for the growth of alfalfa, and, curiously, these bacteria and the alfalfa act marvelously in synibiosis to stimulate the growth of many other grasses and grains.

We have tried to move along the commonsense way, that if milk is made up of a multitude of known and unknown substances, then, perhaps, in this wide range in feeding we would give the cow, in one way or another, the proper elements for her to transform.

We know practically nothing of the ultimate process involved in the production of a drop of milk, but our elemental observations, through nature, tell us that a robust, healthy mother animal is most likely to produce milk nearest like what nature intended it to be.

Knowing so little about how a drop of milk is produced, and less about the construction of this delicate fluid tissue, then we must be at quite as much loss to know what changes are wrought in it when man begins to meddle.

Francisco once said all healthy cows produce grade A milk, only when man gets hold of it it is changed to B or C grade.

It was the medical man who took the science of bacteriology out to the cow stable and started to work for better milk.

Twenty years ago Jacobi said: "The greatest advance that has been made in infant feeding in recent years was in the production and popular demand for pure milk."

Certainly the infant morbidity and mortality of twenty-five years ago have almost passed away, and today no one will deny but what better milk has helped, and in the work for better milk certified has always led the way.

This milk retails for 28 cents per quart, but it should be said that the farms get from 15 cents to 17 cents per quart net, so that most of the difference in cost between this milk and ordinary milk goes to the farms. Truly, this sounds expensive, but Kellogg has shown that "a quart of certified milk at 35 cents per quart is actually cheaper than a pound of lean beef at the same price. A pound of steak at 35 cents supplies 450 to 650 calories, or 14 calories for one cent, while a quart of certified milk at 35 cents supplies from 650 to 740 calories, or 20 calories for one cent, a difference of more than 40 per cent in favor of the milk." And Howe has further shown that the milk comes already prepared for human consumption, whereas there is the labor and expense of preparing and cooking the meat. This adds strikingly to our food costs and made the comparison the more invidious.

Certified milk is a high-grade, basic, fresh, normal milk.

Should it be pasteurized before you get it? We believe not. We have felt that it should be left to you as raw milk, to change, modify, divide, scald, boil or pasteurize as best suited your requirements. It is the only milk on the market that gives the physician his full privileges.

Fracture of the Neck of the Femur in the Aged.

S. Lloyd Fisher, M. D.

Brooklyn, New York

FRACTURE of the neck of the femur is the common fracture of old age and occurs most frequently in old women.

The usual position of deformity is slight adduction, external rotation or "helpless eversion" and shortening. If impaction exists, adduction is usually more marked. Pain is severe and the patient is helpless though in incomplete or impacted fracture, the patient may continue to walk.

The position of the fragments with relation to each other is often with the shaft and portion of neck up and behind with the trochanter rotated backward. The head fragment points up and slightly forward. Whitman states that "the displaced head is in such position which under normal conditions would require abduction and internal rotation of shaft with hyperextension to force the fragments together."

The site of fracture is at the junction of the head and neck, at the trochanter and neck, or midway between, though there may be any variation of the above.

The chief causes of non-union are:

First, lack of blood supply with poor osteogenesis

Second, rotation of fragments away from each other.

Third, interposition of synovial membrane or the action of the synovial fluid, as it is to be remembered that the fracture is often entirely within the synovial sac.

The blood supply is by four arteries, one through the Ligamentum Teres, atrophied in old age, on upper surface at junction of head and neck, at Great Trochanter, and fourth at Lesser Trochanter. These reach the bone by way of periosteum and capsule. Regardless of age, the condition of the patient's arteries is a very fair index of how well the patient will stand treatment and whether bony or fibrous union may be expected, provided reduction is obtained and maintained.

A word about the arrangement of capsular ligament. In front is the Y ligament of Bigelow or ilio femoral, at the side and in front the pubo femoral, at the top the ilio trochanteric and below the ischio femoral, all integral parts of the ligament, the important fact being that the fibers do not run to the nearest point but surround the joint in a circular mannner, so that in flexion they are well relaxed and the capsule is enlarged. Incidentally, this is when dislocation takes place, and, when extended or hyperextended, they decrease the size of capsular space and actually force the head of the femur into the ætabular cavity, so that, besides being an enarthrodial joint, there is a corkscrew action, i. e., relaxation during flexion and capsular tension during hypertension.

With the above remarks as a preface, we shall describe the treatment used in these cases in the service of Dr. Tenopyr in the Kings County Hospital.

At the beginning of our service last year there were four cases of fractured neck of the femur admitted within as many days. These were followed by others, fifteen in all. Their ages ranged from 60 to 100 years and they were in an advanced state of decrepitude, weak, emaciated, incontinent, and even delirious. What to do was the problem and believing entirely in the Whitman method, we decided to take four of the most favorable cases, judged by arterial and general condition.

The patients were placed on a Hawley table, a careful anesthetic given, reduction accomplished and Whitman cast applied.

The best risks had been selected, the patients were given special care yet one died at the end of two weeks, another after a month and two others lived, though one cast had to be removed after ten weeks on account of pediculi. The beds were elevated, placed in the best lighted and ventilated parts of the ward, position of the patients changed often and all that was possible was done to insure success, yet with the above results.

Still believing in the Whitman method but discouraged with the outcome in these old, weakened patients, we began to look about for a method which would give us the Whitman position of extreme abduction, internal rotation, and hypertension. The method which we have to present is the result.

The apparatus used consists of a Balkan Frame bolted firmly to the bed, two unmodified Thomas leg splints, and a carefully applied Buck's extension to each leg.

The foot of the bed is elevated eight inches. The injured limb is placed in the Thomas splint, with the ring against the tubed ischii, abducted to the point of pain and about five pounds weight applied. The splint is then swung to the frame by a two point suspension and weight adjusted to balance the weight of limb, bedclothes, etc. Abduction is increased daily until the limit of single abduction is reached, when the other limb is placed in a splint and abducted to the limit, giving effiicient counter abduction. Complete abduction of the injured limb is accomplished, without pain, in about one week.

Internal rotation is secured at the same time. Broad rotation bands, twelve inches in width, or zinc oxide adhesive are applied to the injured limb around thigh and lower leg and laced to the lateral rods of the splint and tightened at intervals until full internal rotation is accomplished.

Hyperextension is secured by elevation of the foot of the bed and an increasing amount of weight on extension to about fifteen pounds.

Foot drop and pressure sores on the heel are prevented by a strip of adhesive attached to the sole with cord through a pulley above and one to two pounds weight attached. Thus the patient is able to use all muscles of the lower leg and foot, stimulate circulation, keep alive reflex arc and readjust the limb when tired of one position. A trapeze is swung from longitudinal bars above the patient's arms so that she is able to raise herself on bed pan or change her position without aid.

Thus we have accomplished without anesthetic, pain or shock to the patient, the fundamentals of Whitman's method, extreme abduction, internal rotation and hyperextension. At the present time we have treated more than twenty cases and in no case has the pain persisted after the first day.

The advantages are:

Efficiency. X-ray shows reduction and repeated X-rays are easy with the bedside unit.

Adaptability. The treatment can be graduated to suit the condition of the patient. The hopeless case can be made comfortable by a simple suspension with slight traction or the better risks can be abducted and rotated fully. In all cases the treatment is tempered to the condition of the patient.

Comfort. The best evidence is the patients' testimony.

Ease of care. When properly adjusted, weights balanced, etc., the apparatus does not require more than a daily inspection, noting position of the limb, relation of the ring to tuber Ischii and effectiveness of extension.

Morale. Patients in the second stage of treatment, which begins after four months of abduction, walk on crutches, without weight bearing, through the wards, a great encouragment to those still in bed.

Exercise. Ability to move the sound limb, lower leg on injured side, and body by use of arm, shoulder, and chest muscles, prevents hypostatic congestion and preserves muscle tone for ambulant stage.

Anesthesia. No anesthetic necessary though reduction can be accomplished at once by gas oxygen anesthesia, with the patient in bed, instead of by the more gradual method.

Contraindications. None except delirium. We have had no case of pulmonary congestion and no case of decubitus. Two cases that were incontinent regained control after relief from pain.

If bony union fails there is fibrous union with cicatricial contraction of the capsule, so that the patient will still walk though with marked limp.

Results.

The value of any method is measured by the results.

Of five cases traced, one patient, aged 74, walks well but with light external rotation; one, aged 76, had non-union, but walked well and without pain, but with pronounced limp; three, aged, respectively, 60, 62, and 70, are walking well and with no deformity save slight shortening. They have firm union and no pain.

(For Discussion see p. 73)

A Cardiac Efficiency Test.

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IT has only been of very late years that the question as to the actual efficiency of the heart muscle has received any attention. Formerly if valvular lesions were found, the patient had heart disease, and a more or less gloomy prognosis was made. Until very lately I have repeatedly known surgeons and obstreticians and anesthetists to balk at any operation on the bare fact of finding a murmur. When confronted by the ever present question of prognosis, the medical man has been frankly "up a stump." If the heart is behaving well he does not know how long it will so continue, and if it is not, he will have no accurate means of determining whaht prognosis is justified. When the medical profession began to awaken to the inadequacy of its cardiac diagnosis, much had been gained. The stethoscope, while of great value, indeed of greater value than many over enthusiastic devotees of the modern methods credit it for, certainly only begins our collection of knowledge on a case.

Mackenzie has shown us convincingly how far greater a knowledge of what the patient can do is of value in our syndrome of his case. Once this note was sounded our conception of cardiacs was changed, and for the better. The functional school was inaugurated.

In my work, inspired by Mackenzie, I have constantly been groping for further light, on this side of the question, the physiologic.

The investigation brings up the question, "Is there, or can there be, any reliable test which will come closer to accuracy, than a general survey of the patient's ability to walk, exert, etc., can lead us? Is there any test which can show us progress or loss of myocardial efficiency?

As to such instruments as the electrocardiograph, and the polygraph, while they are of the greatest scientific and practical value, they can not help us in prognosis directly, they only add to our knowledge of impulse initiation and transmission. With all the knowledge thus obtained, we are still unable to state the potency of the myocardium, and that is absolutely the vital question.

The results obtained from the Edward C. Schneider test, the so called "Schneider Index," in our aviation service, show clearly and conclusively that certain rates of pulse and certain ranges of increase of pulse rate, and blood pressure, in reclining, standing erect, and after exercise, have a definite relation to the health and fitness of the subject.

I make no pretensions to discovery of any of the principles of the following test, but I am sure that its principles, grouped and interpreted as I have done, are so rarely used as to justify this paper.

The principles upon which it is founded are arrived at in a way that I believe physiology justifies.

The heart, like any force producing engine, has two ways of delivering a load. By the actual forcibleness of the systole, and by the rate of contraction. We know that the stronger the heart, as in men in excellent physical condition, and in the wilder and hardier animals, the slower the pulse rate, and the fewer beats increase on exertion. We know that a weak heart, if it maintains equilibrium at all, must do so by a more or less pronounced tachycardia. We know that the reaction to exertion, while undoubtedly complex, is always shown by a rise of the systolic blood pressure, and that this rise is essential to supplying the increased amount of blood needed. It is produced in two ways, by the cardiac output force, and by valvular constriction. A great factor in the control of pressure is the splanchnic plexus of vessels, but, unfortunately, we have no convenient means of estimating this factor. The heart muscle that is healthy will produce a requisite rise of blood pressure with only a very moderate increase in the pulse rate, and the tachycardia will increase in inverse ratio to the myocardial efficiency, the poorer the muscle, the greater the tachycardia. A very weak heart will be able to produce no rise despite a tachycardia. The rate of pressure and the acceleration of the pulse rate to produce it are therefore of great diagnostic and prognostic value.

We know from our studies of physiology that pressure is produced by two means, the increase of the cardiac output, and the vascular constriction; as it appears a fact that vascular constriction is not immediately relieved on the cessation of exercise, it is logical to feel that the pressure will be maintained for a certain period of time if the myocardium be potent. If the heart be so weakened as to find the output too much exertion for it to maintain, and the vascular tension keeps up, a rapid fall of the systolic pressure will result. If the myocardium is easily exhausted, weakened, the energy output demanded will so exhaust it that it will for a time be unable to even maintain its former rate, and consequently, there will be an actual fall in the systolic pressure after the exercise period. If the myocardium is very much impaired, and cannot throw out any increase of energy, the mere vascular constriction will not be able to account for the peripheral dilatation on exertion, and there will be even an initial fall of pressure immediately upon exersice. The persistence of the pulse increase should, in the same terms, be only of short duration, as shown above. The only condition that will throw out the blood pressure findings are those accompanied by vaso motor atony, such as neuro-cardiac asthenia, Addison's disease, and extreme debility in such wasting diseases as tuberculosis, cancer, etc. It will readily be seen that these conditions will show failure to make pressure, not because of the heart failing to deliver its load, but because this load is delivered against atonic and dilated vessels.

In taking this test we go to a certain degree along Schneider's lines, but as many of the cases have myocardial impairment, there is a tachycardia already, or possible a bradycardia, in block cases, hence no rating is given to the initial pulse. It is the rate of increase over this that we interpret. As for the normals, pulse and blood pressure increase, we arrive at them in precisely the way that Schneider does.

The following reactive phenomena are considered to be facts in a normal individual. Upon exercise, there should be an increase of at least 8 mm., and a pulse rise of not more than 15 per minute. This blood pressure should slowly fall, so that it reaches the base line in five minutes. The pulse increase should not persist for more than two minutes. The respiratory rate should not increase under normal conditions of the lungs for more than three or four minutes, but we place less reliance on this than any of the other factors, as there are so many conditions of the respiratory apparatus that may produce this exertion increase without giving the patient any dyspnea.

If these facts are so, and I firmly believe from my own experience and from comparison with Dr. Schneider's deductions that they are, it will be seen that, properly grouped, we have here the basis for a more or less accurate test of the strength of the heart muscle, whatever the lesion or whatever the disturbance in the rhythm.

The test which I refer to in my work as the "Cardiac Functional test," is very simple to perform. The technic is as follows:

The patient sits quietly for five minutes. All possible precaution is taken not to excite the patient, and thus produce psychic elevation of the pulse or the blood pressure. If these elevations are produced, the pulse and sometimes the pressure will actually reduce under the steps of the test, thus completely destroying the accuracy of it. We, therefore, look upon tracings that show a drop or no rise in blood pressure with a concomitant drop in the pulse as being in all probability, psychic, and we repeat them. We often got a very different curve in repeats. At the end of the five minutes, the pulse is counted for twenty seconds' intervals for several periods until it seems regular, and the pulse and the blood pressure noted.

The patient then is instructed to stand up, and either swing the arms, or better, to hop from one foot to the other, until the dyspnoea is produced. I have made no effort to adopt a standard exercise, as Dr. Schneider does, for two reasons. Firstly, the patient is supposed to be suffering from cardiac disease, and so any enforced limit of exertion would be dangerous in many of the cases, and, secondly, we are trying to ascertain working conditions in each individual case, the point of dyspnoea—that is, moderate exhaustion—will differ with each patient, and should not be exceeded, for the accuracy of the test. We are not attempting to determine how much the patient can do in this way, but simply to put him in a condition that will produce other reactions for testing.

The blood pressure, systolic and diastolic, and the pulse and respiration are then taken, and charted. They are taken and charted every five minutes for fifteen minutes. In other words, immediately after exercise and three times afterwards. Two curves for the blood pressure and one for the pulse and the respirations are thus secured. The types of these curves are the determining factors of the test.

I find that there four main types of systolic blood pressure curves, and that the pulse curves will in the main conform in interpretation with them. As far as the diastolic curve, and the respiratory curve, I am not so sure yet. We accordingly group the cases in four according to the curves, and believe that much of value can be determined from our knowledge of the type of patient belonging to each group of patient belonging to each group, and his ultimate outcome.

Class 1. An immediate increase in pressure of 6 or more Mm. occurs, and slowly declines so that it reaches the initial pressure in about five minutes. The rapidity of drop, according to Schneider, does not mean much as he states that many of his test men, in perfect health and condition, will show a sharp snap back to normal; this, however, has not been my experience. However, the rise and return to not less than normal, are certain facts. In the great majority of these cases the pulse rate will show a curve within normal limits, that is, an increase of not more than 5, and this curve should show that the pulse is returned to normal by five minutes. Schneider again says that two minutes are the normal limit. In most cases the respiration curve will show in proportion to the pulse curve, and will not increase more than 12 and will return to normal rather slower than the respirations, say about ten minutes. Very many heart cases with pronounced lesions will fall into this class, and I believe that an unqualifiedly good prognosis may be given for operation, continuance of pregnancy, or going upon travels etc.

Class 2. In this group, the following phenomena occur. There will be rise of pressure, usually less than Class 1, about 6 mm. at the most, and this rise will be of shorter duration. About this point there seems to be some doubt, Dr. Schneider, with whom I had some conversation on this subject, feels that in persons in excellent condition there will be a sharp fall of pressure, but I cannot feel that this conforms with the physiology. However, we are making further tests to ascertain the facts on this point. The significant point is, however, that there will occur a drop in the pressure to a point below what the original presssure was. This is the characteristic of this group, and the depth of the drop will determine how great the degree of the myocardial exhaustion is. The deeper the curve, and the longer it is maintained, the greater the exhaustion of the heart muscle. In this group there is characteristically a more pronounced and sustained tachycardia. The interpretation of these cases is as follows: They have some myocardial reserve, as evidenced by the amount of systolic rise, but there is easy exhaustion, or weakness. The heart will not stand much strain beyond what the heart is at present doing. If subsequent tests show that the depth of the secondary drop is increasing, we may accurately follow the progresss of the patient. Rest is urgently required, and other suitable medication. While I have not yet sufficient data to prove it, I feel that much may be learned from the rapidity and degree of the drop in the systolic pressure. I have noted that in cases where the drop is abrupt and pronounced, there is usually much more dyspnoea and edema, and the cases are more apt to go on to serious inefficiency.

Class 3. This group differs from Class 2, only in that they do not show any rise on exercise. This immediately shows that there is no myocardial reserve, and the prognosis may thus easily be made. This class might at first not seem to be sharply delineated from Class 2, but we feel that it is different as they show absolutely no reserve force, as well as ready exhaustion. Such cases will be on the edge of breakdown, and absolutely nothing in the way of exertion can be attempted.

Class 4. Here there is an actual drop of pressure on any exertion. Actually, these are the cases commonly termed discompensating, and I have not seen many of them, as they are bed cases. The physiologic fact is undoubted, however. I have obtained this cure in several cases not in this condition. One was neuro circulatory asthenia, one was a case of moderately advanced pulmonary tuberculosis. I believe that peripheral circulatory atony is the responsible factor, and not the myocardium. In this reaction, one must always remember to rule out those falls caused by a primary psychic elevation.and the fact that the pulse drops as well, rather than showing an extreme rise, will distinguish such a cause.

It may well be contended that this test is inaccurate, but I can say with some degree of assurance that I believe it is very valuable, and gives us a great deal of information of the present status and the prognosis of the case. In our clinic for heart cases at the Cumberland St. Hospital Dr. W. H. Abbott and I are having this test done on every case, and while the clinic has been operating too short a time to enable us to speak from a long range view, yet we are both pretty well satisfied that the test is of undoubted value, and will serve as at least a working basis to lead us in the right direction as to what sort of a case we are dealing with.

As one result of our work along this line we are eliminating the term "decompensation," for which term, I believe, there is no logical place. It actually confuses our comprehensions. We believe that diseased hearts vary from normal, in their reserve, in different degrees. Our test endeavors to ascertain and classify the cases according to the lowering of this reserve. This reserve is really the vital point of the case.

The systolic rise, is in a rough way, a logical index of the cardiac energy output, its fall, an index of the endurance of the mucle. The degree and persistance of the tachycardia to get an energy output, also show the efficiency of the muscle. Energy output is essential to exertion, and the stronger the heart, the less rapid must it beat to deliver this output of force.

EDITORIAL

What Constitutes the Grippe?

HEALTH COMMISSIONER COPELAND acknowledged in the Daily Press of February 1st, that the city was in the midst of an epidemic of Influenza. We notice that Commissioner Copeland is very apt to seize upon epidemics, threatened or real, and make them a subject of public discussion. The wisdom of this is not always apparent. It is our own belief that it is better to avoid the public discussion of subjects which are apt to cause popular terror, unless the urgency is so great that drastic precautions are necessary. In the present instance there seems to be some doubt in the mind of the profession as to the exact nature of the ailment which is at present so widespread. The general profession is more or less compelled to depend upon its clinical experience for the diagnosis of those ailments for which positive laboratory tests have not yet been devised. They were taught that Influenza, which is the survival of a Middle Age Italian epidemic that was attributed to the influence (*Influenza*) of the stars, was the name applied to a set of symptoms for which the name La Grippe, or the Russian Grippe, was coined in 1888. The symptoms are fairly definite and include a sudden onset with marked prostration, intense general aching and temperature high in proportion to the pulse rate; with the development of these symptoms, there may develop complications either of the upper air passages of the lungs or of the abdominal organs. When the terrible epidemic of 1918 occurred, there was added a tendency to the rapid development of a tremendously fatal pneumonia which often killed before well marked evidences of consolidation could be demonstrated. To this plague the populace transferred the name of influenza or the flu.

Now there has appeared an epidemic of a different sort.

While a certain proportion of the cases present the characteristic sudden onset and general aching, a very considerable number are clinically quite different. The writer has seen and there have been described to him a very considerable number of cases that present the following symptoms:

1. A raw sensation in the back of the throat which generally extends both up and down.

2. Swelling and congestion of the upper nasal structures, often, but not always accompanied by an irritating muco-purulent discharge.

3. Improvement on the second or third day with an extension of symptoms on the fourth day, with the appearance of tracheal irritation and an irritative cough. Definite bronchitis and even pneumonia may

supervene. Fever and increased pulse rate do not usually appear until after the second day. The appearance of the throat is characteristic. The entire pharnyx and the faucial pillars are of an even, deep, velvety crimson. In a few instances, a filmy white pseudomembrane has been apparent in spots. Acute inflammation of the kidneys and polyarthritis have been noted as complications. The temperature range is irregular, seldom above 101 and usually about 100, followed in several cases by a subnormal temperature after the fourth day. The writer has seen enough of these cases to feel that at least a generous proportion of them have been reported as Grippe, probably for lack of a better name. Their general appearance and behavior is strongly suggestive of a streptococcus. The exact type has not been determined because in the few cases where throat cultures have been made a variety of cocci have been reported and as yet no differential cultural studies are at hand. If the experience of others agrees with my own, there is a marked tendency for this type of throat infection to recur. It might be better to say that it subsides but does not disappear and shows repeated recrudescence. This description is not to be regarded in any way as the report of a new discovery, nor is any claim made for originality, but the frequent observation of cases of this type which have formed a generous proportion of the cases of acute epidemic infections that the writer has observed during the past month, lead him to question the health department reports concerning influenza. He is further influenced by a desire to see the term influenza fall into disuse if possible, as it has become a sinister word in the public mind. The experiences of 1918 are still fresh in the public memory and something very like panic results when a case is diagnosticated as influenza. On the other hand, Grippe has grown to a very loose term and by the same token the public seem to regard what they call a touch of grippe as rather a trifling matter. It will be well if a definite agreement could be brought about whereby a better appreciation of symptomatology, terminology and prognosis could be arrived at by the profession and public alike. While intelligent physicians fully realize that a common origin is probable, it is neverthelesss convenient to group symptoms clinically and give them a name, even though it be unscientific. Doubtless the Health Commissioner would be relieved of a great burden of anxiety if some of these seasonal outbreaks of contagious disease could be so classified that he could be spared the necessity for frightening the public by discussion in the public press of disease that, although serious enough, lack the real terrors of the plague which smote us four years ago.

H. G. W.

An Outrage.

THE NEW YORK DAILY NEWS for Tuesday, December 27th, contains two columns devoted to the question of morality of doctors. It consists of communications from women who publicly detail some of their experiences with physicians which carry the impression that physicians have made improper advances to them, or have sought to take advantage of their chastity while they were visiting the doctors' office.

The first thought that flashes up from the reading of this morbid stuff is one of indignation that the medical profession should be made the subject of such discussion, because after twenty-five years of practice one knows pretty well that much of this sort of stuff originates in the imagination of women who are not unlike the two old maids who inquired of the German sergeant after the invasion of a Belgian town, when the rapings were to begin. And it seems incomprehensible that a reputable newspaper would give space to this sort of stuff. We have yet to see a similar dissection in the public print of the morals of the clergy, of lawyers, and of men of business.

The second thought arises from our knowledge of the men we have met in the profession, and it is one of thankfulness that so few of them are worthy of the imputation. It may be asserted with little fear of contradiction that a decent-minded woman is safer in the hands of the ordinary physician than in any one elses company, including members of her own sex. This does not mean that physicians are not cast in the same mold as other men, and that they are not open to immoral impulse just as are the rest of mankind, but it does say that a decent-minded woman is absolutely safe from the intrusion of immoral suggestion with all but a very few physicians, and it is a matter of pride to feel a belief that amounts almost to conviction that there are fewer unworthy physicians than in any other calling. It is difficult to see what good is going to be accomplished by the public discussion of what is absolutely a private matter. A physician is not immoral because he is a physician, but because he is essentially a bad man. And this is true of every calling. One may justly resent this discussion which can lead nowhere because it is absolutely impossible to frame a law that will make men and women pure in mind and deed. The suggestion of one of these prurient-minded women is that every physician should be compelled by law to have a nurse in his office. Such a law would accomplish nothing, even if it were constitutional, which we doubt.

The whole matter simmers down to this: The pure in heart are safe everywhere they care to go, and any woman who is in the least doubtful as to the conduct of the physician whom she visits can readily protect herself by the presence of a mature woman friend.

In closing, one cannot help but deprecate the editorial attitude of a newspaper which uses the mask of public morality to pander to the prurient-minded.

H. G. W.

Medical Legislation.

AT this time of the year when the State legislature has renewed its activities and the usual crop of amendments to the Public Health law has appeared, it is right that the profession should recall certain problems which, although postponed, are, nevertheless, very much alive. The Male bill, with its gratuitous insult to the profession, will probably die in the committee. Governor Miller has spoken in no undecided terms in regard to the Shepard-Towner maternity bill, but that bill is an accomplished fact in so far as Congress is concerned and it will be as hard to get repealed as the Adamson Labor law.

What are we to do with the chiropractors? What is to be done in regard to health centers and rural medicine? These are all questions that require careful study and united action. It is just upon this point of united action that the medical fraternity is weakest. Every chiropractor in the country is contributing liberally to the general fund that is adequate to keep up a country wide campaign of advertising. It is reported that they have purchased a well known magazine that is being used as a medium for furthering their preposterous claims; and pamphlets are being sent out broadcast. To meet this situation, the medical profession has so far done only this. Through the Journal of The American Medical Association, it keeps up a dignified, but quite ineffective, long distance warfare—the sort of warfare that is about as terrifying as are reports of floods in China to a resident of the Mohawk Valley. It is doubtful whether one physician in five of those who subscribe to The American Medical Association journal, takes the trouble to read what is there written. This is a great pity because as material for an active campaign, it is of great value. Furthermore, the New York State Medical Society has established a legislative bureau at Albany, the purpose of which is to issue information in regard to pending legislation. This, again, will be patronized by those who need it least and labors under the handicap that has been like a ball and chain about the ankles of the State Medical Society for many years. It does not represent the overwhelming sentiment of physicians in New York State. In Kings and Queens Counties, the Professional Guild has made a definite beginning along lines that are promising. There is a Persian proverb that the jackal of Mazandaran can only be caught by the hounds of Mazandaran. In other words, to accomplish results with any legislative body, the methods of practical politics must brought into play. If one can go to a legislator and say to him "your stand upon certain problems is unsatisfactory and the people of your district will in consequence refuse to return you to office", the lesson goes home not only to that individual but to those who manage politics from the inside. This the Guild has accomplished, and what has been done in one section can be done in other sections. If all the effort and the money that are frittered away in disconnected, independent efforts, could be concentrated in one organization and under a skilled political leader, there could be no doubt of the result. Unhappily, the discouraging thing is to find that those physicians who by reason of their professional eminence should be leaders in this work, are all too prone to take the attitude that it does not concern them. In discussing this problem with men throughout the profession, it has been most discouraging to find this attitude often expressed concretely in the words, "I am a specialist; this means nothing to me"; and yet, when the time comes, their withers will be wrung with the rest. Five dollars a year—ten cents a week—one and a half cents a day—contributed toward a nation wide campaign to place the medical profession in its proper light before the public, would accomplish what we have yet been unable to bring about. Pope says: "Man never is, but always to be blest." That means that if we keep hoping long enough and keep struggling toward the goal of unity, we may some day accomplish what we have set out to do.

H. G. W.

CORRESPONDENCE

December 24, 1921.

Editor of the Long Island Medical Journal,

Dear Editor: At the last meeting of Kings County Medical Association a group of us were standing discussing "Mind," when I was most forcefully struck by the statement of one of our most prominent Brooklyn physicians:

"When a 'nut' comes into my office, I say to her, 'Get out. You don't need a doctor.' "

This man, unthinkingly, drives her (or him) from himself, into the hands, often, of the unschooled and shrewd scoundrel. He forces the poor sufferer from the legitimate, careful student of medicine, to a cult. He not only shows thereby his lack of understanding of the mind and its human attributes, but he desecrates the whole profession. He increases the patient's perturbation and encourages a spirit of revolution and hate. He (or she) goes where there is so-called relief to be derived.

Why should we, on the one hand, feed the coffers of the various cults with gold, and thus strengthen them to rise, on the other, and kill the time-honored practice of medicine?

Are we not at present, in the daily press, confronted with a mentally diseased patient carrying out her paranoic trend on a doctor who was supposed to be one of her best friends? It is a sad procedure, indeed, when doctors play with fire. Those of us who have occasion to see so many neurotic patients cannot but help feel that this murder should have been prevented.

If the profession at large would expend a little more energy and devote a bit more thought on the investigation of the patient's sentiments—on his subconscious fabric, perhaps a happier community would result.

Doctors, instruct your patients properly: Tell them where to go to secure the necessary help—keep them from those individuals who are employing every subterfuge at their command to hamper the progress of scientific research, and you will thus assuredly reduce the morbidity and mortality rates.

Yours very truly,

Siegfried Block.

Society Transactions

Transactions of the Brooklyn Surgical Society.

Regular meeting of the Brooklyn Surgical Society, held at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Thursday, October 6th, 1921, at 8.30 P. M.

PROGRAM

Arranged by Dr. Edwin H. Fiske

Review of fracture service at Kings County Hospital, 1920—with analysis of cases of fractured skull.

Dr. Joseph Raphael.

Discussion by Dr. Robert F. Barber and J. Bion Bogart.

Review of surgical service for period August 1 to December 1, 1920.

Dr. Joseph Tenopyr.

Discussion by Drs. William Linder, John M. Scannlel, Edwin H. Fiske, Victor A. Robertson, Joseph Raphael, Robert F. Barber, Thomas M. Brennan, Russell M. Rome and Joseph Tenopyr.

Bursitis, December, 1919, to August, 1920. X-rays.

Dr. Russell M. Rome.

Discussion by Drs. William Linder, Edwin H. Fiske, J. Bion Bogart, Roger Durham, Robert F. Barber and Russell M. Rome.

Review of service December 1, 1920, to August 1, 1921.

Dr. William M. Ennis.

Treatment of fracture of the neck of the femur. X-rays.

Dr. Samuel L. Fisher.

Discussion by Drs. Victor A. Robertson, Richard W. Westbrook, Edwin H. Fiske, Joseph Tenopyr, J. Bion Bogart and Samuel L. Fisher.

Robert F. Barber, M. D., *President.*

Thomas M. Brennan, M. D., *Secretary.*

BURSITIS. X-RAY DEMONSTRATION.

Dr. Russell M. Rome

Dr. William Linder:—

“I have had the experience of walking about for about three weeks with an found. It gave me absolutely no pain, which is the rule in these devitalized teeth. thing that one can have. He failed to mention one very important causative factor of this condition, and that is focal infection. After twenty-four hours of suffering I took three-quarters of a grain of morphin by hypo. I wondered what could be the cause of the condition, and after pondering the thing for a while recalled that fifteen years prior to this time the only tooth in my mouth that was devitalized was filled by a very good dentist, and I concluded that this particular tooth was the offender. Accordingly, I had the tooth X-rayed, but the X-ray man was not positive about it. I had the tooth extracted and an apical abscess was acute subacromial bursitis, and I agree with Dr. Rome that it is the most painful After the tooth was extracted, the subacromial bursitis disappeared. Before and since then I have had at least 18 or 20 cases of subacromial bursitis, and I would say about 75% of these cases can be traced to focal infection.

"I agree that immobilization is the treatment of this condition. However, I do not believe that it is the only thing." The doctor recommended the use of a sling, with the application of heat locally, and stated that during the acute stage of the condition a dentist should be called in in order that the teeth might be thoroughly cleansed. Following this treatment, his experience has been that there is immediate relief within twenty-four to forty-eight hours. Continuing along this line, Dr. Linder said, "I find that after cleansing the mouth the symptoms are aggravated for the first twelve hours, after which they promptly subside.

"The aftercare of these cases is very important. Light massage and the application of heat result in great relief and restore complete function. The aftercare is something which is definitely necessary—light massage, heat, varying from 220 to 350 degrees, with the Turnour apparatus, and this facilitates recovery in these cases. The massage, of course, should be given by a competent massuer.

"The diagnsis is very simple. The pain and tenderness is absolute—you just press him and he will yell. The pain and tenderness is absolutely unmistakable. It is not a synovitis. These patients are suffering and you must give them morphin for the first forty-eight hours."

Dr. Edwin H. Fiske:—

"I have been interested in the subject of bursitis for a great many years and my experience does not agree with Dr. Linder's in any way. I have tried plaster Paris bandages without any relief. I have tried all kinds of supports, splints and bandages without any relief nad have yet failed to see a case of acute subacromial bursitis that is not almost instantly relieved by the proper application of adhesive plaster, and I will leave it to Dr. Rome, who has recently been through an acute seizure, that morphin had no effect upon him, and neither did his bandages; but the minute he was strapped properly the pain subsided and he was comfortable. The same was true in his previous attack, and the same is true in every case of acute subacromial bursitis that I have seen. The proper strapping of the patient is the important thing in these cases. The strapping should be a cross strapping, from the arm across to the scapula, supporting the whole arm practically by adhesive plaster, then strapping across the shoulder-joint, and the bursa itself, putting the bursa directly at rest, and then fixation of the entire arm in adhesive plaster, so that there isn't any possibility of the bursa being rotated by movement.

"Acute bursitis, particularly the type that these X-rays showed, are bursas which contain calcareous matter, and during the acute or subacute stage of bursitis massage will not help them because you irritate that calcareous area by massage. Massage should not be used until the acute symptoms and inflammation subside and the bursa itself is painless.

"It is surprising the amount of morphin and the amount of pain these people will suffer regardless of the morphin, and yet how simple it is to relieve them by the proper application of adhesive plaster, and I think that anyone who has seen these cases and observed the relief obtained will agree with me."

Dr. J. B. Bogart:—

"I have been the possessor of a chronic subacromial bursitis for nine years. There are no calcerous deposits. I have tried the massage treatment very thoroughly and it has aggravated it. I have tried light and heat, baking, also the concentrated rays of the electric light. Nothing has done it any good. I would like to know whether any of you gentlemen have operated or known to be operated any case in which there are no calcerous deposits. So far as my own case is concerned, I have no pain, as you see me standing here now, but there is no motion that I make that does not cause me pain."

Dr. Roger Durham:—

"There are apparently about as many cures for bursitis as for poison ivy.

"In my experience the one method of relief that proves most efficacious has not been mentioned by the previous speakers. I contracted my bursitis in a parlor car while leaning against a window, between New York and Philadelphia, having fallen asleep while resting the shoulder on the windowsill, and the only thing that relieved me was not heat, was not massage, was not strapping, but rest in bed and the use of an ice bag, and that did give me relief."

Dr. Robert F. Barber:—

"I have been interested in subdeltoid bursitis, because we see so much time and energy wasted in our out-patient department. In these cases, baking, massage and immobilization were apparently futile in their results. They might be called subacute when they have been treated over a long period of time. Outward rotation of the arm is as painful as attempts to lift the arm. I think that Dr. Rome will agree with me in that statement.

"The treatment which we have used in a number of cases consists in none of the method of treatment mentioned this evening. The patient is given a general anesthetic, and the adhesions can be actually felt to break up in the subdeltoid bursa. The arm is elevated above the head and rotated so that there is absolutely free movement at the end of the manipulations. Then the hand is strapped above the head, and kept that way for about a week or ten days. At the end of this period the hand is released. This saves weeks of futile treatment. I would like to hear from anyone who has used that method of treatment."

Dr. Russell M. Rome:—

"I am rather interested in this treatment which you describe, Dr.. Barber, of hyperextension. From a purely theoretical standpoint, it is rather difficult to reconcile that with the fact that two of thesse cases had an acute exacerbation and went through the same thing that they did on one or wo previous occasions, hyperextension, abduction, sling and muscular movements which they themselves engaged in. I am not saying that in contradiction, but look at it from both standpoints—tennis playing, forcible efforts to pull a rope; from those two efforts resulted marked acute inflammation of the subdeltoid bursa, which went through the regular acute attack of pain, suffering, etc. It seems to me that the two facts are not reconcilable until we know more about the matter with reference to its pathology.

"In regard to Dr. Linder's remarks, the whole question of how we can secure the most complete immobilization in the most comfortable manner, and we may differ as to that. I personally tried the Velpeau bandage and sling and have also followed this method of treatment in cases which have come under my care, but it permitted a degree of movement and caused acute pain. In my own case the only thing that stopped it absolutely was the adhesive strapping.

"The question of infection is the third point I thought about. We went into the question of infection in these cases. It is perfectly wonderful what information we have gotten from it. Every case I have seen has had a definite history of trauma except these two cases. These cases have absolutely no tendency that I have ever observed in my own experience or in the literature, to suppurate; so it is a question of how much a part the bacteriology plays in this and how much hypersecretion due to absolute trauma, without regard to infection at all, may play a part in it. I cannot determine. I do not know. It seems to me rather odd if infection could be traced in the majority of these cases that we rarely have suppuration and have mechanical stasis as contrasted with many other types of bursitis, such as prepatellar bursitis, intrapatellar bursitis, postolecranon bursitis, supratrochanteric bursitis and retrocalcaneal, in which there is a concommittnat focal infectoin in a large proportion of cases."

TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR. X-RAYS.

Dr. S. L. Fisher.

(See page 58)

Dr. Victor A. Robertson:—

"I would like to ask Dr. Fisher how long a time he allows to elapse before he permits these patients to bear weight on the limb, and if he makes any provision for getting any mobility at the knee-joint. He spoke about the ankle-joint movements. I ask this as I have been using lately knee flexion in fractures of femur treated wiht the Thomas splint, by means of a knee-flexion piece attached to the splint which allows movement and lessens the ankylosis which frequently follows prolonged immobilization."

Dr. Richard W. Westbrook:—

"I have been very much interested in Dr. Fisher's treatment as definitely worked out, but I doubt very much whether it can compare with the Whitman treatment. It is not the Whitman treatment, of course, and should not be called Whitman's treatment, because it does not resemble it very greatly. I have used the Whitman treatment a good deal and know it is very comfortable and that you can avoid most of the things Dr. Fisher is trying to avoid. The Whitman treatment has for its object the thorough reduction at once under anesthesia, but we don't always need general anesthesia. You can use H. M. C. very effectively. I recall that in one case the patient absolutely refused anesthesia and was willing to stand the pain, and no anesthesia was used. But the thorough fixation produced by the Whitman spica at once places your patient in the most comfortable position for union, and also from which the patient cannot move, and I do not believe there is anything so comfortable as the Whitman spica properly applied. If it is not well applied, of course it is not comfortable. To my mind, it is the most comfortable treatment I have ever tried for the average fracture of the neck of the femur. The use of the hand sling is an excellent thing, allowing the patient to assist himself greatly." There were some further comments by the doctor along this line, together with a reference to exercise, especially of the free leg, with which "they can exercise a great deal without displacing the fracture in any way. Contnuing his remarks, Dr. Westbrook said:

"Of course, Dr. Fisher is carrying on treatment that is going to produce fairly good results.

"He made the statement that an old lady with non-union walked better than the rest of the cases under treatment. That does not speak well for the treatment.

"The use of anesthesia, of course, has a certain disadvantage, but it is not a long anesthesia. I personally haven't found it a disadvantage, although I have used it in very elderly people.

"I simply want to say that the Whitman treatment is, to my mind, the ideal treatment up to date for fracture of the neck of the femur; anything of this sort carried out as Dr. Fisher carries it out may produce fairly good results. Of course, he cannot show results yet to compare it with the Whitman treatment. I urge the use of Whitman's method in the best way. I mean, learning with practice to put the patient up in the most comfortable manner. I believe it will produce the best results, with as low a mortality as any other method which actually aims at producing a good joint and not merely carrying the patient through a serious illness."

Dr. Edwin H. Fiske:—

"May I ask Dr. Fisher if he intended to convey the impression that he had abandoned the use of the Whitman cast entirely in all fractures of the neck of the femur? Of course, if so, it is hard to, as yet, endorse his treatment, because it has been tried for so short a period of time and because it is lacking in that one element necessary in the treatment of the fracture of the neck of the femur, namely, immobilization. In young patients the results obtained by the Whitman treatment are so satisfactory that one would hesitate to use this method of treatment in such cases.

"There is, however, one thing which is positive about this treatment, and perhaps again we have to speak about the terrible derelicts we get at the Kings County Hospital. Those cases cannot stand casts, but they can stand this treatment with comfort, and it is a great blessing to them; and in the old days we used to put on side splints, Volkmann's splints, and simply let them go with fibrous union in faulty position. But I still feel that the Whitman is the treatment in the young and in those cases in which there is no danger from the treatment."

Dr. Joseph Tenopyr:—

"I am interested in this: it is on my service. One of the things we are trying to diminish is our mortality rate in these cases. This is what gives us our mortality. We had over 50% mortality in fractures of the neck of the femur treated with the Whitman cast, which we considered too much. Now, fortunately, Dr. Fisher has had orthopedic experience for over a period of time at the Long Island College Hospital with Dr. Rushmore.

"I worked with Whitman for quite a period of time putting on Whitman casts.

"As to the proper method of applying the Whitman cast, I think we know how to put them on. Still, our patients died when they were put in Whitman casts. If anybody wants to come with us on this service there are plenty of casts to be put on. If anybody thinks they can put on Whitman casts without any mortality in Kings County Hospital cases, they are entirely welcome to putting them on.

"I believe the anesthetic helps, but with the Kings County cases their morale goes all to pieces, no matter what you do for them, whether they have special nurses or not. They don't want the Whitman cast on, and they complain of it. This is not Whitman's treatment. We do say it fulfills the Whitman principle of abduction and brings the fragments in apposition, as we can prove with the X-ray. We would like to have you come and see how this thing is applied and talk with these patients and see how comfortable they are. Given a proper patient in reasonably good physical condition and apply a Whitman cast and the patient will survive it all right. We look upon it as a rather drastic surgical procedure at times. Even Whitman, when asked how many cases died, says, 'Oh, you got to take a gambler's chance!' He says nothing about the mortality and forgets about it."

Dr. J. B. Bogart:—

"I think I may reasonably claim to be the father of the abduction treatment at the Kings County Hospital. I took Dr. Tenopyr with me to see Dr. Whitman and he kindly gave us a good part of a morning and showed us one patient with a cast on which had been applied on his service. The case had reached the point the cast had been removed below the knee. The patient was apparently doing very nicely and was comfortable. She was a thin, wiry, fine subject for such treatment. I remember the impression Dr. Whitman made upon me, as he did upon Dr. Tenopyr. You cannot pin him down to the question of mortality. When asked as to whether he applied his treatment to all cases, he made this statement, "Of course, this is a comparatively new treatment and we haven't found the limit of it yet.' The oldest patient to which he had applied it successfully, he said, was a woman 94 years of age.

"I have the most profound respect for my colleague, Dr. Westbrook, and yet, after trying out the Whitman treatment for several years at the Kings County and Jewish Hospitals I must confess that I have never had a completely satisfactory result with it. Immobilization is fine theoretically, but you get great stiffness, and the after-result, if you get union, is almost as bad as the first state. It is very difficult to get the patient over the result of your treatment.

"I have read almost all of Whitman's articles covering a series of years, and if I want to be entertained I can do nothing better than pick up one of those articles and read it, especially when he attacks Stimson or some other man who has criticised his treatment. He is in a class by himself.

"I admire Whitman's work, and yet he is the slipperiest man I ever talked to. When you try to pin him down to one of these points, he will show you a beautiful case, but that is all.

"I haven't seen this new treatment at the Kings County Hospital. It is the outgrowth of my failure with the Whitman treatment. If Dr. Westbrook had spent twenty-three years, as I did, wrestling with these cases at the Kings County Hospital, he would have seen a new light. Dr. Fisher has presented to the society one of the most worth-while things I have ever listened to. He has overcome most of the defects of the Whitman treatment. The question is whether he can succeed in maintaining the proper relations of the fragments. If this method produces better results and saves lives, then it is the best treatment. It is, first, the saving of life, and, second, the quettion of function. I thinks we would all be benefited by going out and seeing these six cases which are being treated at the Kings County Hospital at the present time."

Dr. S. L. Fisher:—

"In answer to Dr. Robertson, I would say that we do not believe they should bear weight for ten months or a year. We get them out of bed and allow them to use crutches, but they do not bear weight. I think a great mistake is made by taking a patient out of a cast, if a cast is used, and allowing her to bear weight immediately." The doctor then referred to the dire results which followed such a procedure in two cases in which there had been a successful reduction.

Continuing, the doctor went on to say:

"Dr. Westbrook, I am an apostle of Whitman's, as far as treatment is concerned, and, as Dr. Fiske has said, in young persons or persons who can stand it, I think it is the ideal treatment; but we are finding out from this mortality of which I have spoken that it is not applicable to all cases, and I can also say that when any of those casts that we applied last year were removed there wasn't a sign of a pressure sore and not a single evidence of any kind that the cast had not been properly applied.

"As far as complete fixation is concerned, the question is, Is it necessary? The neck of the femur is cancellous tissue and a rib is cancellous tissue. There is no bone in the body which heals quicker than a rib. A number of men writing about their cases in the past year claims an end-to-end motion of the bones does no harm. That is the motion we have inside of the capsule in these cases of fracture of the femur, end-to-end, not a sliding by of the fragments, and the case mentioned, that failed to get union, was treated in a Whitman cast.

"I think Dr. Fiske asked the question as to whether we abandoned the use of the Whitman cast. In reply to that question I would say, by no means, only in these cases of fractured neck in the aged."

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

February, 1922 5 Pages

TEXTBOOK OF SURGICAL ANATOMY.

A TEXTBOOK OF SURGICAL ANATOMY. By William Francis Campbell, A. B., M. D., F. A. C. S. Third Edition, revised. Philadelphia and London. W. B. Saunders Company, 1921. 681 pages, 325 illustrations. 8vo. Cloth, $6.00.

It has been a great pleasure for the writer to review the new edition of Dr. Campbell's Sugical Anatomy.

It was a great privilege to sit in Dr. Campbell's class, when, as Professor of Anatomy and later as Professor of Surgery, he lectured on Surgical Anatomy. His exposition and presentation of his subject was forceful and illuminating. Anatomical facts were clothed with new interest and assumed more valuable proportions when associated with surgical thought and practice.

Dr. Campbell has been able to incorporate in his book this clarity of expression, this statement of essential fact, this vital surgical application, adaptation, and association that so thoroughly informed and so greatly inspired his students. It is a splendid volume which refreshes your memory, puts you anatomically right and gives you the "anatomical reason why." All of this without very much effort on your part. The matter is well arranged; the type well chosen, and the paragraphs to the point. That there may be no doubt in the reader's mind, there are numerous illustrations. Most of them are from original drawings and tell their own story.

This, the third edition, is in response to the demand created by the popularity of the previous publications of this concise treatise on Surgical Anatomy.

Thomas M. Brennan.

THE SPLEEN AND SOME OF ITS DISEASES.

THE SPLEEN AND SOME OF ITS DISEASES. By Sir Berkeley Moynihan. Philadelphia, W. B. Saunders Company, 1921. 129 pages, 13 full-page diagrams. 8vo. Cloth, 5.00.

This book is a thorough review of the present knowledge of an organ of the body about which little has been known by the medical world until very recent years. It contains the material upon which the author based his Bradshaw Lecture delivered at the Royal College of Surgeons of England in December, 1920, and it is presented in the attractive manner so characteristic of the great surgeon and writer, who never fails to clarify any subject to which he applies his hand and mind. It should be a matter of pride to Americans that he so frequently refers to the work done on this side of the Atlantic to advance the knowledge of an obscure subject, especially that of Dr. W. J. Mayo and other members of the Mayo Clinic.

The book opens with a short discussion of the anatomy of the spleen and a brief history of its surgery. Then follow chapters on the function of the spleen, its pathology and the clinical and associated phenomena in splenic disease.

The remaining chapters of the book are devoted to discussions of the various diseases in which the spleen plays an important part. The first on the list is Pernicious Anaemia, and the observations in regard to splenectomy in this disease typify the author's sound judgment. Leukaemia, Hodgkin's Disease, Splenic Anaemia and Haemolytic Jaundice are dealt with in succeeding chapters beginning with an historical paragraph or two, followed by the clinical history, the diagnosis and the treatment of each disease. The surgical aspects of all these disorders are clearly expounded, as would be expected of this eminent surgeon. A chapter is devoted to Gaucher's Disease, Von Jaksch's Disease and Polycythaemia. Another is "On the Liver in Some of its Relations to the Spleen." The book ends with a very complete list of references.

Anyone who has a case of splenic disease brought to his notice should read this little book, and if he once starts he will, in the opinion of the reviewer, read it through to the end.

T. B. S.

THE SURGICAL CLINICS OF NORTH AMERCA, AUGUST, 1921.

SURGICAL CLINICS OF NORTH AMERICA. Published bimonthly by the W. B. Saunders Company, Philadelphia and London. August, 1921, Vol. I. No. 4, Chicago Number. Price, per year, paper, $12.00.

The Chicago Surgeons present their work in this number of the Surgical Clinics. The topics discussed are numerous and interesting and the material selected is highly instructive. This issue will prove of particular value to those who are ambitious to perfect themselves in the art of local anesthesia as applied to major surgery. The fact is that a great deal of major work can be done under local anesthesia with very little discomfort to the patient, if we use a certain amount of patience and thoroughly familiarize ourselves with the regional anatomy. The advantages of local anesthesia in the aged and those cases whose systematic conditions make general anesthesia hazardous are too self-evident to need further comment.

The cases operated in Dr. Bevan's Clinic include an old man of 83 with an acute gangrenous appendicitis. Another one of 73 with carcinoma of the stomach requiring resection and a Billroth anastomosis. Then come a couple of substernal thyroids of quite large dimensions, and all this was carried out under local anesthesia with perfect success.

Dr. Kanavel goes a step further and removes the spleen under local anesthesia.

Dr. Ochsner describes with great detail the various steps in the operation of thyroidectomy and also of the ligation of the thyroid vessels, calling special attention to the method developed by de Quervain. This article, like the others, is accompanied by numerous illustrations.

Acute appendicitis complicating pregnancy is handled in a masterly and courageous manner by Dr. DeLee. He dwells at length on this dangerous complication of pregnancy. He points out the danger of expectant treatment. The obstetricians will particularly appreciate this. This firm attitude will unquestionably save many human lives in the future. He says, 'Operate as soon as the diagnosis is made and make the diagnosis as early as possible."

The other topics of discussion are: Hypernephroma, by Dr. Kretschner; The Lymphatics of the Female Breast in Relation to Carcinoma, by Dr. Eisendrath; The Atypical Pathology in Tumors of the Large Bowel, and a number of no less interesting and instructive articles.

Hermann Shann.

THE PROSPECTIVE MOTHER.

THE PROSPECTIVE MOTHER. A Handbook for Women During Pregnancy. By J. Morris Slemons, M. D. Second Edition. New York and London, D. Appleton & Co., 1921. 343 pages. 12mo. Cloth, $2.00

Having read a number of works, written for a similar purpose, the reviewer must, in all fairness, give the opinion that this equals, if not surpasses, any of the others. No book has discussed the scientific aspects of gestation, pregnancy, labor, puerperium and lactation in so simple a manner, and yet so comprehensive and accurate, that medical students, nurses and practitioners will find it of value.

He dismisses many erroneous traditions of child-bearing with logical science, in everyday phraseology.

He gives practical reasons that most confinements should be in hospitals.

His reference to the simplicity of labors that occur too rapidly before the attendant's arrival should do much to allay a patient's fears about such an occurrence, and to rid her of the feeling that either she or the nurse or the physician is "particeps criminis" in a felony.

The reviewer cannot agree with him, however, in his condemnation of "Twilight Sleep," which he seems to dismiss arbitrarily. This is too valuable a procedure for certain types of women, and in certain classes of labor; Slemons errs in not giving it a proper kind of reference in his book.

PRINCIPLES OF MEDICAL TREATMENT.

PRINCIPLES OF MEDICAL TREATMENT. By George Cheever Shattuck, M. D., A. M. Fifth Revised Edition. Boston, W. M. Leonard, Inc., 1921. 309 pages, interleaved. 8vo. Cloth, $3.50.

The earlier editions of Dr. Shattuck's book were titled "A Syllabus of Medical Treatment" and were then welcomed as "meaty" little volumes. The present edition has been materially enlarged by the addition of several special articles from Drs. Hawes, Place, Blake, Ragle, and Thomas, together with some modification of the original text. The result is a very substantial volume of excellent reading matter presented in a highly scientific manner by competent authority.

Essentially, the style of the book is syllabic, but Dr. Shattuck has covered a great deal of ground by presenting his subject in a schematic form that is most comprehensive. To be brief, accurate, scientific, and at the same time up to date, is an accomplishment possessed by few. Dr. Shattuck has met all these requirements and has presented his subject with a completeness that is highly commendable. It is refreshing, indeed, to find a competent authority who is willing to undertake encompassing the Principles of Medical Treatment into 150 pages of text. It is equally gratifying to find that someone has been found who has done it so efficiently.

This small volume should become the handmaiden of the modern medicine man.

M. F. DeL.

AMERICAN HOSPITAL OF THE TWENTIETH CENTURY.

THE AMERICAN HOSPITAL OF THE TWENTIETH CENTURY. A Treatise on the Development of Medical Institutions, both in Europe and in America, since the beginning of the present century. By Edward F. Stevens, Architect. Revised Edition. New York, The Architectural Record Company, 1921. 380 pages. 480 illustrations and plans. Large 8vo. Cloth, $7.50.

The American Hospital of the Twentieth Century (revised edition) is a very attractive book, well printed on good paper. The index, in three sections, is an admirable arrangement, enabling one to readily locate the desired detail. Much new material has been added and the old material revised and brought up to date.

For one interested in hospitals, it is well worthy of study, as indicating possible improvements in buildings or equipment, but for those who are contemplating new buildings it is an absolute necessity to enable them to include in their plans the best in detail that may be secured.

R. E. S.

DISEASES OF THE SKIN.

A TREATISE ON DISEASES OF THE SKIN. By Henry W. Stelwagon, M. D., Ph.D. Ninth Edition, with the assistance of Henry Kennedy Gaskill, M. D. Philadelphia and London, W. B. Saunders Company, 1921. 1313 pages, 401 text-illustrations and 29 colored and half-tone plates. 8vo. Cloth, $10.00.

The ninth edition of Dr. Stelwagon's well-known textbook on dermatoloy has been brought up to date by Dr. Gaskill, to whom was left the task of finishing the book after Dr. Stelwagon's death.

The authors have eliminated from the text everything that from advanced knowledge has become obsolete or unproved and have added much new matter.

The work still holds its position as one of the foremost American textbooks on dermatology.

J. M. W.

CHEMICAL DISINFECTION AND STERILIZATION.

CHEMICAL DISINFECTION AND STERILIZATION. By Samuel Rideal, D. Sc. (Lond.) and Eric K. Rideal, D. Sc. (Lond.), M. A. (Cantab.) London, Edward Arnold & Co., New York, Longmans, Green & Co., 1921. 313 pages. 8vo. Cloth, $7.50.

The field covered in this volume is broader than the title indicates, since physical as well as chemical measures are discussed and their application considered to the destruction of bacterial as well as plant and animal parasites and pests. The first eight chapters are taken up with the employment of such measures in medicine, general sanitation, agriculture and the industries. The material represents a summary of accepted practice, although the consideration of the natural and immune defences of the animal organisms hardly reflects the point of view of modern immunology. Chapter X interprets the mechanism of chemical disinfection in the light of recent advances in physical chemistry. Chapters XI to XIII, inclusive, discuss the constitution and germicidal effect of essentially all the chemical substances used for disinfection. The final chapter presents methods of analysis and testing, and gives the details of the well-known Rideal-Walker method. A bibliography is appended to each chapter, and there is a subject and an author index.

The book is apparently not intended for use as a practical manual, but should find a wide range of usefulness as a brief reference work.

C. B. C.

HYGIENE.

HYGIENE. By J. Lane Notter and R. H. Firth. Ninth Edition. New York and London, Longmans, Green & Co., 1921. 540 pages, illustrated. 12mo. Cloth, $3.25.

A book which has already passed through eight editions must necessarily contain something to recommend it. The work is a manual for those interested in sanitation and the other phases of public health, and its style will appeal to the neophyte. The chapters dealing strictly with sanitation are far better than those dealing with medical problems. The chapter on Infection and Disinfection is poor, and should either be brought up to date or omitted. Modern science cannot countenance statements such as "Typhoid fever may be transmitted by means of dust containing dried feces."

The work cannot be recommended for serious consideration to medical men, although in al fairness to the authors it should be emphasized that such is not their intention.

E. H. M.

THE CONTROL OF SEX INFECTIONS.

THE CONTROL OF SEX INFECTIONS. By J Bayard Clark, M. D. New York, The Macmillan Company, 1921. 132 pages. 12mo.

In this brief work the author discourses on the important factors concerning sex infection and their prevention, with the hope that professional as well as lay readers will sense a keener responsibility in carrying on this work. The problem, however, is very intricate, involving especially a moral issue, and will follow, therefore, a very long and difficult path.

The war has taught us many lessons on the sex problem as revealed in this and other publications. The author states that a cooperative effort of society from top to bottom is wha prevention implies. He offers no specific and constructive plan of action.

The reviewer is particularly impressed with the striking results reported by Dr. Clark in the treatment of sex infections in the army hospitals under his care.

Augustus Harris.

MEDICAL EXAMINATION FOR LIFE INSURANCE.

IEDICAL EXAMINATION FOR LIFE INSURANCE. By Thomas D. Lister, C. B. E., M. D., F. R. C. S., M. R. C. P. London, Edward Arnold & Co., New York, Longmans, Green & Co., 1921. 168 pages. 8vo. Cloth, $3.75.

This book touches on the most important hings in Medical Board Medico Life Insur-nce work, and portrays a picture of executive bility along these lines, based on the company's xperience, of which Dr. Lister is the medical fficer. This work, by the President of the Assurance Medical Society, gives the view-oint of English practice in this field. We onsider it a good text and handbook and take leasure in recommending it to the medical rofession working in the field of life insur-nce as an executive or examiner.

S. S. Brown.

LABORATORY HANDBOOK FOR DIETETICS.

LABORATORY HANDBOOK FOR DIETETICS. By Mary Swartz Rose, Ph.D. Revised Edition. New York, The Macmillan Company, 1921. 156 pages. 8vo. Cloth, $2.10.

This is a working manual for classes in nu-ition, as used by the author in the Teachers' ollege. It will be found of great use by all ietiticians and those who have to provide food or institutions, prisons, almshouses, contract bor, etc.

Dietary calculations, of all kinds, are fully overed in the text, and these are supplemented y a variety of tables covering every phrase of e dietary problems, and which should make easy to construct a properly balanced scien-fic ration. The book is to be recommended s a reference book for those who wish in-ormation on the composition or value of any f the usual foods of the market.

E. H. B.

BOOKS RECEIVED.

LINICAL DIAGNOSIS. A Textbook of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By Charles Phillips Emerson, A. B., M. D. Fifth Edition, entirely rewritten and reset. Philadelphia and London, J. B. Lippincott Company, 1921. 726 pages, illustrated, plates. 8vo. Cloth, $7.50.

PHRAIM McDOWELL, "FATHER OF OVARIOTOMY" AND FOUNDER OF ABDOMINAL SURGERY. By August Schachner, M. D., F. A. C. S. Philadelphia and London, J. B. Lippincott Company, 1921. 331 pages, illustrated. 8vo. Cloth, $5.00.

PIDEMIOLOGY AND PUBLIC HEALTH. A Text and Reference Book for Physicians, Medical Students and Health Workers. By Victor C. Vaughan, M. D., LL.D., assisted by Henry F. Vaughan, M. S., Dr. P. H. and George T. Palmer, M. S., Dr. P. H. In Three Volumes. Vol. I, Respiratory Infections. St. Louis, C. V. Mosby Company, 1922. 688 pages. 8vo. Cloth, $9.00.

ESSENTIALS OF LABORATORY DIAGNOSIS. By Francis Ashley Faught, M. D. Seventh Revised and Enlarged Edition. Philadelphia, F .A. Davis Co., 1921. 523 pages, 78 illustrations, 11 plates. 8vo. Cloth, $4.50.

RINGWORM AND ITS SUCCESSFUL TREATMENT. By John Turner, M. D. Philadelphia, F. A. Davis Co., 1921. 62 pages, 8 illustrations. 12mo. Cloth, $1.00.

PRACTICAL MEDICINE SERIES. Comprising eight volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D. Series 1921, Vol. V, Gynecology, edited by E. C. Dudley, A. M., M. D., LL.D.; Obstetrics, edited by Joseph B. De Lee, A. M., M. D. Chicago, The Year Book Publishers. 384 pages, illustrated, plates. 12mo. Cloth, $1.75

SURGICAL CLINICS OF NORTH AMERICA. Published bimonthly by The W. B. Saunders Company, Philadelphia and London. Vol. I, No. 6, December, 1921, New York Number. Paper (price per year), $12.00.

PREVENTIVE MEDICINE AND HYGIENE. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; Director of the School of Public Health of Harvard University. Fourth Edition. New York and London, D. Appleton & Co., 1921. 1567 pages, illustrated. 8vo. Cloth, $10.00.

THE BLOOD SUPPLY TO THE HEART IN ITS ANATOMICAL AND CLINICAL ASPECTS. By Louis Gross, M. D., C. M. New York, Paul B. Hoeber, 1921. 171 pages, with 29 full-page plates and 6 text illustrations. 8vo. Cloth, $5.00.

THE PRINCIPLES OF BACTERIOLOGY. By A. C. Abbott, M. D. Tenth Edition, thoroughly revised. Philadelphia and New York, Lea & Febiger, 1921. 686 pages, with 121 illustrations. 12mo. Cloth, $4.00.

X-RAYS AND RADIUM IN THE TREATMENT OF DISEASES OF THE SKIN. By George Miller MacKee, M. D. Philadelphia and New York, Lea & Febiger, 1921. 602 pages, illustrated with 250 engravings. 8vo. Cloth, $9.00.

DIAGNOSTISCHE WINKE FUER DIE TAEGLICHE PRAXIS. Von Dr. E. Graetzer. 2. Auflage. Berlin, S. Karger, 1920. 264 pages. 12mo. Cloth, Mk. 24 plus 300% Valutazuschlag.

INTERNE DIAGNOSTIK AM KRANKENBETT. Von Dr. Walter Frey. Berlin, S. Karger, 1921. 196 pages, with 36 illustrations. 12mo. Cloth, Mk. 24 plus 300% Valuazuschlag.

THERAPEUTISCHES VADEMECUM FUER DIE KINDERPRAXIS. Von Dr. Hans Kleinschmidt. 2. u. 3. Auflage. Berlin, S. Karger, 1920. 196 pages. 12mo. Boards, Mk. 18 plus 300% Valutazuschlag.

DIE ELEKTRIZITAET IM DIENSTE DES PRAKTISCHEN ARZTES. Von Dr. W. Zuelchaur. Berlin, S. Karger, 1922. 164 pages, with 56 illustrations. 8vo. Paper, Mk. 24 plus 300% Valutazuchlag.

DIE THERAPIE DER PLACENTA PRAEVIA. Von Dr. F. Hitschmann. Berlin, S. Karger, 1921. 175 pages. 8vo. Paper, Mk. 24 plus 300% Valutazuschlag.

DIE KLINISCHE ULTRAMIKROSKOPIE UND DIE FRUEHDIAGNOSE DER SYPHILIS. Von Dr. Gustav Fantl. Berlin, S. Karegr, 1921. 29 pages, with 4 illlustrations. 12mo. Paper, Mk. 3 plus 300% Valutazuschlag.

GRUNDRISS DER GESAMMTEN ROENTGENDIAGNOSTIK INNERER KRANKHEITEN. Von Dr. Fritz Munk. 2. Auflage. Leipzig, Georg Thieme, 1922. 297 pages, with 193 illustrations. 8vo. Ausland: Cloth, Mk. 180.-

PROSTITUTION UND TUBERKULOSE; KLINISCHE UND SOZIALMEDIZINISCHE UNTERSUCHUNGEN. Von Dr. I. W. Samson. Leipzig, Georg Thieme, 1921. 120 pages. 8vo. Ausland: Paper, Mk. 54.-

PATHOLOGISCHE PHYSIOLOGIE. Von Dr. H. E. Hering. 1. Abteilung-Die Funktionsstorungen des Herzens, der Gefasse und des Blutes. Leipzig, Georg Thieme, 1921. 120 pages. 8vo. Ausland: Paper, Mk. 39.-

KOMPENDIUM DER LICHTBEHANDLUNG. Von Dr. H. E. Schmidt. 3. Auflage, Hrsg. von Dr. Otto Strauss. Leipzig, Georg Thieme, 1921. 114 pages with 49 illustrations. 8vo. Ausland: Paper, Mk. 60.-

LEHRBUCH DER HAUTKRANHEITEN. Von Dr. Max Joseph. 9. Auflage. Leipzig, Georg Thieme, 1922. 258 pages. with 63 illustrations and 2 plates. 8vo. Ausland: Cloth, Mk. 130.-

LEHRBUCH DER GESCHLECHTSKRANKHEITEN. Von Dr. Max Joseph. 8. Auflage. Leipzig, Georg Thieme. 1921. 217 pages, with 54 illustrations and 1 plate. 8vo. Ausland: Paper, Mk. 90.-

HEALTH NUTRITION AND THE NUTRITION CLASS. A Report of the Bureau of Educational Experiments. By Jean Lee Hunt, Buford J. Johnson, Ph.D., and Edith M. Lincoln, M. D. New York, E. P. Dutton & Co., 1921. 281 pages, illustrated. 12mo. Cloth, $3.50.

THE LAWS OF SEX. By Edith Houghton Hooker. Boston, Richard G. Badger, 1921. 373 pages. 12mo. Cloth, $5.00.

THE MANNER OF MAN THAT KILLS; Spencer-Czolgosz-Richeson. By L. Vernon Briggs, M. D. Boston, Richard G. Badger, 1921. 444 pages, illustrated. 8vo. Cloth, $5.00.

LONG ISLAND
MEDICAL JOURNAL

VOL. XVI MARCH, 1922 No. 3

Inaugural Address of the President.*

First Meeting of the Centennial Year, January 17, 1922.

Frank D. Jennings, M. D.
Brooklyn, New York.

LET me first express my deep appreciation of the honor bestowed upon me by the members of this society. The privilege of conducting the affairs of the society is a distinctive one in our profession and carries with it solemn obligation and responsibility, of which the speaker is deeply sensible. It is my most earnest hope that, with your whole-hearted cooperation, we will succeed in making this—our centennial year—a noteworthy one in the society's incunabula.

The attainment of a full century's growth is not an ordinary achievement and is one that is marked by great effort, great devotion, great sacrifice on the part of large numbers of men, each of whom, in turn, has given something of himself, of his fibre—his warp and woof—in order that this county society might endure. It is because of the unselfishness of our ancestors that we assemble tonight in this auditorium in this building, housing a mammoth library, the possession of which marks ours as one of the few county societies in the country owning and maintaining such a building. Theirs, gentlemen, was the pride of sacrifice, ours the pride of possession.

The completion of one hundred years' existence naturally directs our minds back over the decades to the genesis, to the creation of it all. Where did it begin? Who began it? What were the purposes in the minds of the men who gave it being?

Such consideration takes one even further back to the beginnings of medicine in this region, and it is found that in July, 1644, the good ship *Blue Cock* arrived in this port from Curacoa, bearing 130 soldiers, adding numerical strength and confidence to the sorely tried colonists who, under Peter Stuyvesant, had been engaged in war with the Indians since 1633. On this vessel was a West India Company surgeon, Paulus van der Beeck, of Bremen. He was probably the second medical man in the colonies, Hans Kierstede having come in 1639 and located in New Amsterdam.

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*Read before the Medical Society of the County of Kings, Jan. 17, 1922.

Van der Beeck had an eye to the main chance and in October married Mary Bennett, the venture his first, but her third. Not much is written of his medical activities. He is spoken of as surgeon and farmer, the farm having been in the vicinity of what is now Third Avenue and Twenty-eighth Street. He held many offices and grew rich. His assessment in 1675 was on £133, 10*s*, and there were only nine citizens with higher rates. However, his stepsons petitioned for repossession of their patrimony successfully, so that his estate suffered in some measure. He died in 1679, and thus ended the life of the first man to practice medicine in Brooklyn.

Gerardue Beekman was the second. He settled in Flatbush, was one of the deacons of the Reformed Dutch Church, was active in politics, holding many offices until his death in 1724. Of his medical work little is known, but he was a man of courage, as is evidenced by his stand when imprisoned in the Leisler controversy.

John Nerbury was the third practitioner. He resided at the Brooklyn ferry. Practically nothing is known of him.

The next practitioner of whom record is found was Henry Van Beuren. In 1754 he presented a bill to the county for setting the shoulder of Mary Ann Smith and after-attendance, valuing his services at £1, 12*s*. He was apparently a man of high ideals and found time to combat the "irregular" practitioners of his day. In the *New York Gazette,* or *Weekly Postboy,* of May 20th, 1754, appeared the following letter from him:

"Vita brevis, ars vero longo. sec occasio momentosa magni momenti; empirica periclitato periculosi judicium difficile. Hippocrat. Aphoris.—The daily and innumerable Abuses that are committed on the bodies of our Fellow creatures, in the Practice of Physic and Surgery, by the unskilful Pretenders of both; and the deplorable instances of the Havock and Devastation, occasioned by such intestine Enemies (destructive to any State, as a raging Pestilence), is obvious to all Men of Judgment and Observation. How solicitous ought every Monarchy and Commonwealth to be, about the health and Preservation of every individual. The ancient Romans were very singular in this way. Any one who had the good fortune to save the life of any Roman citizen, was dignified with an Oaken Garland. Even the diminutive Republic of St. Marino, in Italy, in our days, is very remarkable for the judicious Choice in a Physician, under whose Hand the Commonwealth thrives. A proper regulation in this Respect, so necessary in this Province, will be likely never to take place, without the attention and concurrence of the Legislature.

"Every pitiful Fellow, now-a-days (more dexterous at murdering or maiming his patients, than at terms of Art), assumes to himself, with no small Arrogance, the Appellation of Doctor; far from being due to Quacks and Medicators, and only so to the Gentlemen of the Faculty, the undoubted sons of Æsculapius. So venerable a Distinction is become rather a Term of Reproach to those to whom is peculiarly belongs, who have taken the highest Degree in that Art, or science, in some University; or, at least ought to be qualified for so doing.

"Well may a Gentleman of the Faculty, in the City of New York, particularly distinguished for his uncommon merit, disdain the appellation, when he must share it with numbers who can have no Pretension to it at all; and even with Apothecary apprentices, before they have finished thier elaborate studies and application of Three long years."

At this time demand for medication was on the increase, intermittent fever and dysentery being common in the summer, lung and throat affections in the winter. Epidemics of yellow fever and small pox were not infrequent. Public credulity was great and charlatans flourished. In 1753 it was noted that New York boasts the honor of "above forty gentlemen of the faculty," and far the greatest part of them are mere pretenders to a profession of which they are entirely ignorant. As a writer in 1757 stated, "Quacks abound like the locust in Egypt," and that no improvement could be expected, as the profession was under no kind of legislation.

Contemporary with Van Beuren were John Lodewick and Henry Van de Water. The latter was an ardent Colonist, which at that time almost surely brought material loss and social astracism, and in his case prison and death, dying on one of the prison ships from disease contracted there.

After the close of the War for Independence at least three army surgeons settled here, Barbarin, Duffield and Beck. Of the last there is some doubt, but it is known that an English army surgeon located in Flatbush and was successful in practice, but later became dissipated and met a tragic end, his body having been found at the bottom of a well.

Barbarin likewise was a British army surgeon. He resigned from the service, married a Brooklyn girl and petitioned the Assembly for citizenship, one of the war romances of the past. He kept records in French of his obstetric cases, was one of the first trustees of the incorporated village of Brooklyn and had the honor of having a street named after him, later and now known as Lawrence Street. It is written that "his dress was plain, but rich, and garnished at the wrists with lace," a garniture suggestive of one with fastidious sartorial taste.

Of Duffield little is written, except that our present Duffield Street was named after him.

Contemporary with these men were the two Van Burens, John and James, of whom little is recorded, except the strong probability that one of them was the keeper of and occupied the County Court House and jail, which were in Flatbush, the then principal town and county seat.

Available histories or chronicles do not convey anything of the conditions of practice during those years, or, indeed, the methods of practice. The community was small and cccupied a small area around lower Fulton Street, although the Kings Highway, as it was then called, was extended in 1704 from Sands Street to Bedford. at the junction of the Clove Road, leading to Flatbush, and the Cripplebush Road, leading to Newtown. Above Sands Street it was four (4) rods wide, below that street it was four (4) feet wide and was not widened until 1839. This is cited to give an impression of the primitive conditions.

The is mention of epidemic of small pox in 1680 and 1739, and of a disease resembling plague in 1702, and in 1743 and 1769 of what was called "Angina." This was prevalent throughout Long Island, but nothing can be found to throw light on its exact nature. The first systematic records were in 1804, when yellow fever prevailed, as it did again in 1809 and 1823, causing a considerable number of deaths.

The only records by the physicians of that time were bills, generally to the county or the Overseer of the Poor, for services to the "sick and vagrant poor," often including medicine provided. So far as noted, the bills were paid and duly receipted.

In the early part of the last century, during the years immediately preceding the formation of the county society, the practitioners were slightly more numerous, and the names of Creed, Clussman, Hunt, Wendell, Ball, Lowe, Osborne, Carpenter, Vanderveer, and Peter are found.

Dr. Peter lived at New Utrecht and built between there and Fort Hamilton a large edifice, where he conducted an academy, in addition to his practice. The town of Gravesend was in his zone, and it is related that upon arrival there he would go to the hotel and ring loudly the dinner bell, thus announcing to the inhabitants the availability of medical service.

Hunt was a surgeon in the United States Navy, fought in the Algerian War under Decatur, later was stationed at the Brooklyn Navy Yard. He resigned from the service and opened an office at Fulton and Concord Streets, was one of the charter members of this society and its second President, holding that office from 1825 until his death in 1830, incidentally the longest time any President has held the office, and was the first health officer of Brooklyn, at a salary of $200 a year.

Osborne became engaged in a bitter controversy with Wendell and Ball during the yellow fever epidemic of 1809. It is not apparent what the dispute was about, except that it concerned the epidemic, but it became so bitter that it terminated in "outrageous personalities" in public print. Shortly after this, Osborne moved to New York, from which one might infer that he received the worst of the argument.

Wendell was a native of Albany and was a licentiate of 1804. He began practice about in 1806, and later was in partnership with Ball at Fulton and Sands Streets, and also at Columbia and Cranberry. He was the first Vice-President and the sixth President of this society. His career was notable in that he was an exponent of mild therapy in a time of drastic drugging. He was health officer for many years. One of his patients, in attributing her longevity to his sound advice, eulogized him as follows: "He was opposed to heroic treatment and in sympathy with milder treatment. He was tall, elegant, in manner delicate, almost to fastidiousness. He had the dignity and reticence of the old-style practitioner, without his pomposity, and was, in short, a model physician."

Ball was the richest physician of his time, owning all of what is now Brooklyn Heights, occupied the first three (3) story brick house in the city, at Fulton and Main Streets, and was the first doctor to give up horseback for the carriage. He was President of the society in 1833. He was public-spirited and was one of the prime leaders in a public movement in 1824 which culminated in many improvements, notably regrading and paving streets with gutters at the side replacing the water courses in the middle of the street.

Vanderveer was a native of Flatbush and graduated from the College of Physicians and Surgeons in 1819. He began practice in his home town, but his success was so great that he drew a clientele from all Kings County. He maintained a Brooklyn office and was the first man to specialize (1838), which aroused opposition among his professional brethren. He was the first secretary of this society and its seventh President. Like most physicians of that time, he was an ardent churchman. It is of interest to know that at his home the first meeting of this society was held. His home is notable also in that it was previously the home of Dr. Livingston, Professor of Divinity of the Reformed Dutch Church, who taught students of divinity there. From lack of support this embryonic theological seminary was removed to New Brunswick and is now Rutgers College.

Such was the type of men and such were the conditions in this county in the first two decades of the eighteenth century. No organization existed and practice was under no control. Legislation affecting the medical profession was first enacted in 1760, when the general assembly ordained that no person should practice physic or surgery before examination as to his qualifications. At that time people in general were rather prone to treat themselves, each housewife possessing a supply of herbs, more commonly, if less euphoniously, known as "yarbs," often handed down from one generation to the next. Standard stocks of that era comprised catnip for nerves, Indian posy for tonic purposes, boneset for fevers, and skunk cabbage for rheumatism. However, the increasing number of irregulars and charlatans compelled the Legislature in 1806 to take action. There was enacted a statute permitting the incorporation of a State and of County Medical Societies. The State society organized at once, as did Queens and Suffolk Counties, but Kings, with characteristic Dutch conservatism, moved slowly, and it was not until 1822 that the first steps were taken to organize.

On Monday, February 22, 1822, Drs. Ball and Wendell of Brooklyn, Carpenter and DuBois of New Utrecht, Creed and Vandeveer of Flatbush met at the latter's home, discussed the matter and adjourned. The met again on March 2d in Brooklyn at Auld Lang Syne Tavern, with two additional physicians present, Drs. Hunt and Henry. Of those present, only two were graduates of a medical school, Vanderveer and Henry; the others were licentiates. Cornelius Low was elected President, by-laws were adopted, and on April 8th the society was founded.

Meetings (and all meeting were held pursuant to public notice) alternated quarterly for five years between Willie Stevenson's Inn, on Fulton near Pineapple, where "Biddy" Stevenson's famous turtle soup was dispensed, and the Van Beuren Inn, kept by Simon Voris, in Flatbush. They usually assembled at midday, as traveling was slow and road lighting unknown.

After 1827 the society met at the offices of the members in turn; then, until 1837, at the Apprentices Library, Cranberry and Henry Streets, the cornerstone of which was laid by Lafayette in 1824. For some years the Brooklyn Lyceum, which became later the Brooklyn Institute, housed them. After 1865 (in 1866 the custom of monthly meetings was begun) the society was nomadic, migrating from place to place, until 1887 a home was purchased at 356 Bridge Street. Here the society remained eleven years, when the building was sold, and meetings were held in Apollo Hall until the dedication of our present home in May, 1900, and its completion in 1902 during the presidency of Dr. Henry A. Fairbairn, who, by personal effort, raised $8,000 to equip the library with stacks.

During the early years the society's work consisted almost entirely of the regulation of practice. The statute then required all practitioners to belong to the county society, and, in addition ,conferred on the society the power to license practitioners after examinations, which were conducted by the censors. A successful candidate received a diploma in Latin or English, at his option, signed by the President and Secretary, for which he paid five dollars, and a copy of which had to be deposited with the County Clerk, else he would be subject to penalty as an illegal practitioner. On receipt of the diploma, the licentiate signed a declaration that he would honestly, virtuously and chastely conduct himself, and with fidelity and honor do everything in his power for the sick committed to his care. These declarations are preserved in the minutes; noteworthy among them is that of Dr. Henry J. Cullen, father of our distinguished jurist, Edgar M. Cullen.

The minutes show that the matter of regulating the practice of physic and surgery was troublesome and that many men practiced openly and freely without license, despite the fact that penalities were steadily increased. In 1827 the Legislature, by enactment, directed that county society presidents serve written notice on every practitioner not a member to apply for and receive a certificate of membership within sixty days after service of the notice. Non-compliance meant forfeiture of license and subjection to all penalties provided for unlicensed physicians.

With few changes, the law continued until 1844, when popular opinion began to turn, and the cry of "monopoly"—no doubt the forerunner of the current term, "doctors' trust"—was raised, and for a number of years legislative halls were crowded with petitioners for appeal of these laws. The main contention for repeal was that the clause preventing unlicensed practitioners from suing and collecting was oppressive, and "this was urged by men of education and talent."

Evidently the pressure bore fruit, as the Legislature repealed the Act of 1830 and removed all bans on the unlicensed doctor suing for and collecting a fee. Simultaneously, the act made him also liable for suit for malpractice, a Roland for an Oliver.

This statute, known as the Act of 1844, created great confusion among the medical men, as the impression was created that the duties and prerogatives of the county societies had been materially curbed. This was made the basis of an exhaustive and analytical report by a committee of this society to the State society, submitted in 1858. Their conclusions were that the act had not altered the status of the county society in any sense. It speaks scathingly of the licensed pratitioner who, by failing to join the county society, degrades himself and voluntarily descends into the ranks of the unlicensed, a motley group of botanics, electricians and animal magnetizers.

The early meetings were singularly devoid of scientific consideration or discussions. Despite the fact that cholera raged in 1832, 1849 and 1854, causing approximately 1,800 deaths, only one reference to the disease is found, and that a suggestion that cholera be discussed, as was done in other societies.

The general situation evoked comment in the society, with the result that a scientific committee was appointed, and case reports and papers soon began to issue. The proceedings of the society were then published in the *New York Journal of Medicine,* beginning in 1858. Bound volumes of the proceedings were varied and of high scientific attainment. Among them, curiously enough, were two by the same surgeon, one a description of a new instrument for removal of foreign bodies from the larynx, the other on dilatation of strictures of the urethra, evidence that "crificial" surgery existed even then.

At this time, 1856, the Brooklyn Medico-Chiurgical Society was begun. This was the first society devoted exclusively to scientific programs. It ceased to exist in 1866.

The growth of the society was slow, but as the population increased and the village grew to be a metropolis, so did the society expand. Its members were ever loyal citizens and generous men. The record of the profession during the Civil War was notable, as it was during the Spanish-American and World Wars. At the time of the great Chicago fire the medical men of this community were among the first to institute a collection for the relief of their stricken confreres, and nearly fourteen hundred dollars was sent them. Later, when yellow fever ravaged the South, the men of Kings County were again to the fore and a substantial sum raised and forwarded.

In 1844 Bradley Parker, in his inaugural address as President, broached the subject of a library. The ensuing discussion resulted in the appointment of a committee which, in 1845, reported a library of sixty volumes and a balance of fifty dollars. This was the actual beginning of the immense library of today. Interest lagged for about twenty years, and in 1867 a special committee, in a complete and very scholarly report, recommended that a medical library department be established in the building of the Long Island Historical Society, title in the books to be vested in that society. This was agreed upon, and the committee raised one thousand dollars and secured over two hundred volumes. The collection was greatly augmented two years later by a gift of the library of Dr. D. C. Enos, nine hundred volumes in all.

Affiliation with the Historical Society did not prove as satisfactory as had been hoped. Access to medical books was possible only to those who were members of that society. Dr. Reese, elected librarian in 1869, took cognizance of this situation and in 1874 purchased a portable bookcase, which was soon filled with books. That bookcase was the nucleus of our library. We owe a great debt to Reese. It was he who founded the *Proceedings,* a monthly journal published by the society until 1864, when it suspended, being replaced in 1888 by the *Brooklyn Medical Journal,* now the LONG ISLAND MEDICAL JOURNAL.

The library grew by leaps and bounds under the successive regimes of Thayer, French, Hutchins, Read, Ray, Hunt, Browning, who served from 1891 to 1901, during which time the Cutter Library and Watson Collection, a total of six thousand volumes and pamphlets, were added, as well as the library of Joseph Jones, late Surgeon-General of the Confederate Army, a personal purchase and gift of Brownings, Winfield, under whose able management the Long Island Historical Society deposited as a permanent loan 3,500 volumes and pamphlets, and who secured the Purple Collection, the Skene Library, the preeminent Fisher Library, comprising venerable works of great antiquity, and the Physicians Library of the German Hospital and Dispensary of New York, which led to the creation of our foreign section. Harris, Tilney, Warbasse, Sherwood followed, and again the devoted and distinguished incumbent, Browning, to whom the society is so deeply obligated. It is of interest to know that the library of the State Society is on our shelves.

The growth of the library and the increase in membership were such that the Bridge Street home became inadequate. The directing librarian repeatedly called attention to the deplorable way the library contents were stored, entailing danger of loss from thievery and fire. The neighborhood grew more noisy, and there was an absence of that tranquility necessary to scientific meetings; the city authorities frequently gave warning that the building was unsafe. But no action was taken until George MacNaughton, on assuming the presidency in 1894 for the first of four successive terms, pointed out in a forceful and stirring address the imperative need of building a new home. Such was his courage, his vision, his energy, that inertia was converted into action. A committee was appointed to investigate and report. After thorough consideration, the present site was selected and this building erected, the cornerstone being laid in 1898, and the formal opening followed in May, 1900. The funds were raised almost entirely from the medical profession and by an auxiliary committee composed largely of physicians' wives and relatives.

The designation of our assembly room as the MacNaughton auditorium is but scant recognition of the great and staunch man from whose brain leaped the idea and from whose heart flowed those impulses which inspired men about him to work, to give, that the profession of this town might have a home worthy of it. Thus it was that this architectural gem came into being and that tonight we meet, not in hired quarters, but in our own building. Those men built well and substantially and beautifully. If there be disbelievers, let them some time stand across Bedford Avenue and study the façade, the Caduceus at the top, the graceful, arched windows of the reading room, the simple colonial entrance, and let them then realize that into every component element of the structure has gone something of the bigness of the doctor of the past.

This narrative, despite its length, is but a poor epitome of the century's story. There is not time to relate the hospital history, beginning in 1839 with the establishment of the Brooklyn City Hospital on Adams, near Johnson, by the Common Council, after petition by the medical men; nor is there time, if this is the place, to include the history of Homeopathy and Eclecticism in Brooklyn, with the adversities and animosities which both encountered; nor for more than mention of the stalwart, outstanding men developed here, such as Hutchinson, Skene, Benjamin Westbrook, Squibb, Raymond, Stiles, John Byrne, Jewett, GeorgeR. Fowler, Bristow, MacNaughton, Mason, Thorne, Cullen, Otterson, Speir, Isaacs, and many others; nor to include other than a reference to the growth and development of the special societies, the Pathological, founded in 1870; Surgical, founded in 1887; Neurological, Pediatric, Internal Medicine, Gynecological, and of the local neighborhood societies, the Brooklyn, the North Brooklyn, Flatbush, East New York, New Utrecht, Bay Ridge, Williamsburg, all of them serving well-defined and useful purposes, promoting better feeling through opportunity for social intercourse and stabilizing conditions of practice; nor may we dwell upon social and economic legislation of recent years which threatened to undermine the whole fabric of medicine, but which will be considered later in the evening by the able and distinguished President of the State Medical Society, whose courage and sanity have been such invaluable aids on Capitol Hill.

Tonight we enter upon our second century, so that this meeting has a significance apart from the ordinary meeting. Tonight we should take stock, so to speak, survey and analyze our present condition and consider ways and means to broaden and strengthen the influence of the society within and without the profession.

It is evident—in my judgment, at least—that a society of this type which at the end of one hundred years only musters slightly more than 50 per cent of the available men has not achieved complete success. If so, where is the fault, with the society or with the doctor, or both? It is our impression that the fault is with both. The doctor is apt to be an individualist and often fails to manifest the collective spirit, colloquially termed "gang" spirit, and for one reason or another stays outside the society, frequently damning it.

The society, on the other hand, has sometimes failed to sense changing conditions, has not been as alert, perhaps, as it should have been to move in matters vitally affecting the profession, and in general, it may be said, has allowed the scientific to overshadow economic and public-health phases.

As an organization, we are primarily concerned with maintaining a library and its building, with the reading of scientific papers and the consequent dissemination of scientific knowledge and with the duties of a County Medical Society; that is to say, compliance with the enactments of the parent State Society and with the obligation laid down by law to prosecute illegal and criminal practitioners. These are fundamental.

Over and above these, it seems to the speaker that we have other duties, which may be summarized as follows:

1. *Public Health Work.*—This is properly the function of the Public Health Committee. How extensively is should be undertaken is a hard question to determine, especially with our limited finances. It is evident, with the aid of lay committees or in conjunction with public-health committees of lay organizations, that greater consideration could be given to such questions, and much good might be accomplished. The questions exist; they are facts, and as the representative medical body of this county we must heed them. Dr. S. R. Blatteis has consented to take the chairmanship of this committee. His long experience in the public-health field and his known ability assure us that this work will be carried out successfully.

2. *Post-graduate Medical Education.*—It is rather commonly said around town, "What has the County Society done for me?" The underlying thought, apparently, has been that in some way or other the society should offer something of practical utility to the man in general practice. Acting on that thought, we have designated a special committee, of which Dr. Charles A. Gordon will be chairman, and it is the purpose to plan a schedule of weekly lectures on topics of common clinical importance and interest. This schedule will be printed. By this plan several things will be accomplished, greater use of the auditorium, practical teaching, clinical as far as possible, for the profession at large and allowing greater latitude for the monthly evening meetings to consider economic and public-health questions and developments of modern medicine, such as group practice, pay clinics, administration of the compensation law, medical education of today, pure food, industrial

medicine and surgery, garbage disposal, contamination of city waters (New York is defined as an island surrounded by sewage), and other subjects on which we should be better informed.

3. *Conversion of the Library Building Into a Medical Center.*—We already have the Professional Guild office in the building and hope soon to have a nurse registry, if suitable arrangements can be made. We would like to see a Health Department substation here, if possible, stocked with all vaccines and sera, and believe that it would be a convenience to a great number of men.

Turning now to our most urgent needs, we confront serious problems. As has been mentioned before, our membership is little more than 50 per cent of the total number of physicians in the county, and is that only because of the energy and efforts of Dr. Bogart and Dr. Matthews. The Medical Society of the County of Erie has 90 per cent of the availables. Is there any valid reason why we cannot do as well?

The Membership Committee, of which Dr. Louis Schaefer is chairman, has in preparation plans for an intensive membership drive, to end on the foundation day of the society—the second Monday in April—and we bespeak for him and his committee the loyal support of you all, to the end that when our centennial year is over we may point to a percentage of membership equalling that of Erie. What they have done, the man of Kings can do!

The Centenary Committee has been doing valiant work under the skillful leadership of Dr. Russell S. Fowler and has made good progress, though far short of the mark of $100,000. Surely, we of 1922, to whom has fallen the honor of marking the centennial in some outstanding fashion are not going to fail. If 650 men, guided and directed by MacNaughton, could erect this structure, are 1,250 men to default in the obligation to put an endowment behind it that will once again sound the clarion to the profession of the States and Nation that Kings is a county of deeds? Is the little, portable bookcase of Reese, the nucleus of the fifth largest medical library on this continent, now containing 85,000 bound volumes, to mean to us only wood and varnish, or will it symbolize the spirit of this town and stimulate us to action? Does not this glimpse into the bygone times, this susurrus of a glorious past not awaken within us a responsive chord; does it not stir within us a feeling that what the Titans of the past have given us, we shall transmit to posterity enhanced and ennobled and shall be better and bigger in so doing? Let us get together and by concerted effort reach our centennial celebration in the autumn with fifteen hundred members and our endowment secure, remembering that—

> "Time past is gone, thou canst not it recall,
> Time present is, enjoy the portion small,
> Time future is not and may never be;
> Time present is the only time for thee."

Note.—The sources from which the above facts have been drawn include Stiles' *History of Kings County,* The Transactions of the Medical Society of the County of Kings, Transactions of the Medical Society of the State of New York, the Brooklyn Medical Journal and brochures published by the Library Building. These are *all contained within* our own library.

Marriage and the Family Romance. Its Psychopathological Importance in the Neuroses.*

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A CAREFUL survey of the family and environmental relations is of prime importance in studying the causation of the neuroses. The particular picture that a neurosis gives you depends in great part on the fundamental (real) and the compensatory (assumed) traits of the individual. But the neurosis itself is almost invariably precipitated by some personal or family disharmony or difficulty. It may be conceded that the "nervous" upset is in nearly every instance connected with another member of the family, acting as a repressing influence on the patient. In studying the etiology of these neuroses, one always sees a patient who feels or dreads a loss of personal or social security.

The neurosis might be referred to as a compromise in a conflict. The conflict is the result of certain deep feelings (often asocial) not being in harmony with one's cultural obligations. The important factor is the conflict. It can always be demonstrated in the neurosis, irrespective of the name one gives the particular disorder. The continuous struggling with the conflict may result in a waste of energy (producing fatigue); or for a while may increase bodily activities, and at the same time limit social outlets (producing the hypertense reactions, commonly observed in the neurotics).

In the neuroses, the clinical value of the presence of happiness and freedom from worry, and the deleterious effects of such chronic emotional reactions as discontent or hate, are well known to all psychiatrists. To neglect these factors and to study only the vasomotor and somatic accompaniments is a great mistake. And it will not materially help the nervous patient to make new adjustments, merely to give his complaint a name.

All physicians realize that chronic dysharmonies can produce not only mental but physical symptoms. One must not fail to correlate the various vasomotor and metabolic reactions (tensions) with the underlying neurosis; nor fail to remember that a psychogenic disturbance is primarily no more a metabolic disorder, than a defect of morals is a metabolic disorder.

Neurotics, and so-called "temperamental" people especially, react badly to continuous irritations. It is necessary to get at the psychological mechanism in these cases, because treatment solely at the physiological level (gastric lavage, curettage, sedatives, etc.) will not cure these neuroses, and may not even ameliorate the symptoms. The personal difficulties must be adjusted. Undue stress, *e.g.*, may cause a young bride to develop a neurosis, especially where she has no sympathetic adult to help her tide over her difficulties.

The marital factors in the neuroses can be better understood if we first review briefly a few points in the psychology of the child; and then study the family situation as an emotional problem; also a brief review of the psychogenesis of sex in general, with special emphasis on that part of it relating to the developing child, will not be out of place. Most of these facts are well known, hence the brevity of their presentation here.

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*Read before the Brooklyn Neurological Society.

For the first few years of life, the child is autoerotic and then narcissistic; *i.e.,* is interested chiefly in himself. The child's natural curiosity instinct is well known. Up to late childhood, his greatest affective (emotional) interests are confined to the family circle. The next step in his biological progress is to take a great interest in extra-familial persons; at first, in those of his own sex; and at puberty, in persons of the opposite sex. All normal human beings pass through this psychic development. A failure to develop thus, but to have interest and attachment arrested at any of these stages is referred to as a "fixation." It is a common pathological mechanism in the neuroses. (Needless to say, we are concerned chiefly with the affective component of sex, and not with any physical reaction.)

It need hardly be said that the sex instinct in the child has nothing in common—neither in its affect, aim, expression, etc.—with this instinct in the adult, of which the child knows nothing. We see, about the time of puberty, misunderstood feelings in the child, causing dreads and apprehensions. Another thing to remember is that these phantasies and chronic vague imaginations in older children are usually psychologically more important (and, of course, more frequent) than any childish physical expression of sex. Sex has a very deep emotional value. Another fact of importance to remember is that the basis of a child's finer love interests are feeling states, and not primarily intellectual ones. For both ontogenetically and phylogenetically, the former are old and the intellectual ones recent.

In the average instance, for the parent to harshly taboo every normal interest in sex will only favor secret vulgarity or its antithesis—prudishness. This we all know from experience. The child, of course, must be refined from any undue interest in sex by the wise parent or guardian; but hardly by a method of annihilation. Rather a sympathetic attitude on the part of the parent; simple wholesome answers to the child's normal questions, and at the same time substituting numerous healthy social activities as outlets for his or her energy should be the policy. This latter is extremely important.

In order to understand traits and trends in an adult, you must first study psychogenesis in the child. The former is the fully developed flower; the latter, the bud. If everything relating to sex is depicted to the child as degrading, you can rest assured that, as an adult, he or she will react to sex with prudery, shame, disgust, etc., even after marriage. Abnormal prudishness is hardly commendable; it is not a sign of innate goodness at all, but is usually a compensatory reaction.

A very important study is the relation of the child to the family. According to most students of human behavior, character is really formed in the first five years of life. (We are referring to the development of real, fundamental traits, and not to assumed or compensatory ones.) So the strength of character traits depends on the guardians of these early years. Character is really a condensation of our history from birth. It has more of an emotional than an intellectual basis.

The young child has a natural feeling of security in the family, but feels unsafe outside of it. Its chief interests and attachments center here. The child is a persistent and consistent imitator of its parents and elders.

Probably the most important lesson to learn in child psychology is that you must train the child, particularly in the emotional sphere, so that it will be able to emancipate itself affectively (feelingly) from the family by the time it reaches the end of adolescence (21 to 22 years). A failure to do this constitutes an infantile reaction; it is regressive instead of being progressive. A person with an intense fixation on his family is often a hazard in marriage.

I cannot go into all the interesting features of family psychology; but there are a few upon which emphasis should be laid. The aim in rearing the child is to further its own opportunities for its future welfare, and not for the present or subsequent pleasure of its family. This is necessary if one wishes the child to become successful and happy.

You know the extremely marked emotional hold that parents have on the child. You can understand how a boy with a fixation on his family loses the need for centering his interest on the outside world. Fixation on the family is not to be confused with normal family love—this latter is laudable and acts as an incentive to progress and success in the world of reality. Normal family love stimulates; abnormal family fixation paralyzes the youth's efforts. Parents, unfortunately, fail to see the asocial and destructive influence of this abnormal fixation. This fixation is very bad if it persists unabated after marriage; it jeopardizes the success of the new union.

The failure to free one's self from an undue family attachment is seen in some young men and women at the time of marrying or soon after. The failure to be happy in the new situation results in the various nervous reactions constituting the neurosis. They are "terribly lonesome" for their blood relatives, though they often suppress and try not to openly complain of this feeling; rather they say that they are "nervous," "worried" or "depressed without cause."

Quite a different mechanism is that where a boy is oversubdued by a domineering, though otherwise good, father. (It might not be out of place here to state that some clinicians claim that creative thinkers are often not practical fathers.) Such a boy in later life is apt to become interested chiefly in himself; and is often subject to chronic discontent and dissatisfactions. If such a subdued person ever marries, his interest in marriage and the home is not stable and he soon regresses; *i.e.,* his interests go back to that carefree period antedating marriage.

A family characterized by lack of sympathy, selfishness, prudishness and hatred, is a bad one in which to rear children. Formal verbal sympathy is totally different from genuine sympathy out of the heart.

Here let us make a few comments in reference to the psychology of the sex impulse. It is well known that the average person reacts to sex either prudishly or vulgarly, instead of reacting to it in a normal way, as he does to other problems and situations in life. One may agree with Jung that life consists of other impulses besides the sexual, but still insist that the sexual is the one neglected and tabooed by most people, and hence the one that is the least understood. Thus many girls who learn queer and fear-inspiring views of sex in early life are influenced by these in later years, even after marriage, with disquieting results.

Inasmuch as nothing else is so repressed as sex, it follows that nothing else is so distorted. This is particularly true in the training of girls. No better proof of this can be demanded than is furnished in many of the acute psychoses, in which women regularly hallucinate normal sex phenomena, whereas men practically never do. The reason for this is that sex in all its phases conflicts more with the ideals of women than it does with those of men, and they find it difficult to incorporate it into their main personality trends. The latter remark also partly explains why many cultured married women so frequently are anesthetic to sex in the physical sphere. It is quite evident why an individual cannot get pleasure from an external action if it fails to produce satisfaction affectively (within).

One can blame exaggerated sex repressions as the reason why some women do not fall in love and marry. In fact, excessive repressions (or suppressions) may prevent a girl from marrying a man whom she, nevertheless, consciously likes. We know that certain men and women have a social liking for the opposite sex, but no driving incentive to enter the married state. If such a type marries, he or she may soon become indifferent to the responsibilities of married life, which soon becomes a bore, and later even a nightmare. Physicians in recommending marriage to nervous patients should remember this. Marriage, if happy, will be the making of a man; if not, it may be his unmaking. Such recommendations, therefore, must not be fortuitous, but should be made only after studying the character traits of the individual (and, if possible, the proposed partner). While all marriages cannot be riotously happy, yet proper mating will prevent those conflicts incidental to mismating. And the latter, as all psychopathologists know, is a frequent precursor of a neurosis.

All people have a sex impulse; it varies, of course, in degree and intensity. It is well recognized that a person may inhibit the ideas of sex, but not the energy. Some clinicians say that a person who has no sex difficulty whatever (especially affective), is less likely to suffer from any form of neurosis. Again, we know that too much unsublimated sex energy causes fatigue (reactions due to conflict), or hypertense physiological states (irritation).

Now, let us consider a few of the most important causes of marital maladjustments, and the relation of these to the neuroses.

The large majority of maladjustments in marriage from the physical side can be traced to fundamental difficulties in the affective (emotional) element of sex.

It is easy to marry, but not so easy to experience uninterrupted happiness in marriage. And supreme happiness in marriage is an ideal state achieved by but few. However, while all cannot reach and remain at the pinnacle of the pyramid, neither do they have to remain at the base; they can aim for the top, at least. A study of this factor shows the great power of adjustment in men and women.

There are some people, more especially those of the elite class, who regard love in marriage as of secondary importance. To them, the intellect and a cozy economic status are the sine qua non of a "good match." Roses may grow around gold, but they cannot develop from it alone.

Usually a girl or man coming from a family with good traits (ethical, social and sexual-fundamental ones, not those which are merely assumed for the edification of the public) will also possess good traits, hence ought to make a good partner in marriage. This is important for the next generation, for successful and happily married parents are a great asset to the child's mentality—particularly the affective phase of it. Such parents create wonderful emotional tendencies in their children.

Girls or men who have never progressed beyond the adolescent attitude often develop into pronounced cynics. And, if they marry, they are apt to have only a superficial interest in children.

Family feuds are often intensive and are not rarely destructive to the personality of one of its members. It is well known that nervous people rapidly absorb all the home dysharmonies and difficulties. And it is a serious blow to a neurotic patient to get no sympathy from that source from which he expects much. I have seen suicides follow in the wake of these tense family situations. A lesser reaction is a wish for death, with a frank statement from the patient that he or she does not want to get well.

Not infrequently resentment is felt (if not expressed) against the married partner for having taken the patient away from under the parental roof. They will most likely deny this, or resent your probing along these lines. Where the resentment or hate can neither be repressed nor justified, a neurosis is apt to result.

Where two people living together are unsuited to each other, ideas of freedom are common in both. In such instances even a child does not increase affection or interest in each other. Rather it is an unwelcome bond that holds together a union which one or both would rather have disrupted.

These marital maladjustments are very important. The clinician receives but little spontaneous help from the family in many cases. In getting at the real factors he must properly estimate the make-up and reactions on each other of husband and wife, and the influence (often subtle, implied, and very marked) on the married couple exerted by the people-in-law. The emotional reactions in all of these individuals acting on one another are very important in studying a neurosis in the family.

Unwarranted interference on the part of blood relatives often does just the opposite of the good intended.

It has always been so, and always will be, that the families of married couples will be rivals. Each is better than the other, in their own estimation. This bitter rivalry causes the young couple (one or both) to react with tension, and finally—worn out trying to cover over or to patch up family difficulties—to develop a neurosis.

A girl may repress or suppress all ideas of marriage in order to care for her lonesome mother. Later, especially toward the preclimacteric period, there is a partial failure of her cultural ideals and repressions, with an awakening of the wish for motherhood. But the outlook for the fulfillment of such a normal wish may be nil; a neurosis often follows.

When a girl marries, she must become affectively independent of her mother's influence. We know that brides who, as girls, were continually subdued by their mothers, and who even after marriage still let their mothers think for them, even as to minor household affairs, are apt to develop a feeling of helplessness (and in some cases laziness). The reaction in the husband to this is jealousy toward his mother-in-law. It is well known that dominating female relatives can cause a neurosis in the girl and resentment in the man.

So a young married woman with a marked fixation on a parent (family) may not develop adult ideas and attitudes, and fails to become independent of her family. Now, if her relatives try to maintain or accentuate this fixation, the girl becomes discontented with her married state (at first a feeling and not an intellectual cognition), develops various nervous symptoms and regresses to her earlier happy days, with a loss of interest in the present. She finally has to fight a conscious wish for freedom—her old family circle being the goal. The results are easy to imagine. And, again, even if the bride opposes her family's attempt to foster the fixation—but she is affectively abnormally attached to them—a neurosis is apt to result in this instance. This shows how difficult the physician's task often is in assisting to a readjustment. Feelings of lonesomeness, ideas of death (in the form of morbid fears or wishes), of suicide, etc., are common. They mean relief from an unbearable situation.

A bride's mother who not only feels, but who undiplomatically shows (in other ways besides by means of speech), that her daughter ought to have made a better match, and the husband's mother who lets it be known that no girl—certainly not the one he married—is worthy of her wonderful son, are surely not laying out a course that will make the young couple happy.

The son of a lonesome or unhapply married woman is conditioned by such affective association to marry (*i.e.,* if he ever marries) a woman who has more the traits of a mother for him than a wife. The age is unimportant.

Over-petted boys often make bad husbands. They are continually ruminating over their happy former days. An excess of this causes a loss of interest in the present—including the wife and the biological significance of marriage. (This mechanism is seen more commonly in girls, because of their spending more time about home than boys do.) It is quite evident that a boy or girl who has been affectively spoiled by the excessive endearing attentions of many doting relatives will have a hard time to meet any one person in later life who can substitute for all of these attentions. The absence of and the cravings for these (family) outlets may be the psychological basis for later feelings of neglect and loneliness after marriage.

Many a boy with a marked fixation on a widowed mother has become a failure when she remarried, the reason being that from that time on he was unable to find a suitable object for his affections.

The mother-in-law conflict varies in degree and intensity. It is almost universal and is usually founded on jealousy or selfishness. There are cases even where people-in-law have stirred up strife through hatred. They would be glad to get their child back under the parental roof for selfish reasons. These selfish reasons vary in the individual case.

From time immemorial there has been a mother-in-law conflict. Until recently it has been a favorite topic for comic journals, but not one to be taken seriously as a suitable object of scientific psychological study. And yet, in irritating cases, if not properly managed, it is an important etiological factor in producing a neurosis in one of the young couple and the cause of resentment in the other.

Naturally, where two women demand that a man (who is the son of one and the husband of the other) show the first consideration to each of them, a situation amounting to an affective disaster is apt to result, unless the mother-in-law shows wisdom and retires. If she is haughty and stubborn and refuses, and particularly if she is the economic mainstay of the couple, a neurosis will eventually result in one of the married couple. The physician will have an ugly problem on his hands to disentagle. A domineering or jealous mother-in-law can ruin a marriage, unless the young couple can get away from her influence.

As I stated before, a man may have a deep social interest in women, and yet his love interest in them be negative. It is easy to see how a man with a mere casual interest in his wife—with but little deep sympathy or affection—can eventually precipitate a neurosis in a woman who craves a great deal of attention and gets none. Conversely, a frigid, nagging wife is no incentive to bring out the best in a man. Rather, she is more apt to arouse bitterness and to drive him to seek for sunshine elsewhere.

It is easy to see why a pompous, important (compensatory) type of man cannot easily adjust himself to a retiring, undemonstrative type of wife. When such a wife feels neglected and lonely, she tries to adjust by turning her interest to music, her women friends, clubs, etc., as social outlets for her feelings. In this way she may prevent a "breakdown." (The noisy, militant type of woman reacts in quite a different way. This type, whose husband and home cannot absorb her feelings, is not to be confounded with the earnest, sincere social worker.)

It is said that some men's distrust of their homes is often reflected in their distrust of their social and business ventures. A man may avoid a neurosis, when a conflict becomes acute, by resigning himself to his fate.

As a final consideration in these maladjustments, we will say a few words concerning the rôle that the girl plays.

Before marriage the girl cultivates beauty and charm in order to interest and to win the youth. Among cultured young women, love is almost entirely an affective (emotional) problem, not a physical one. In fact, many girls repress (and others try to suppress) the fact that marrige implies anything physical.

The normal woman prefers aggressiveness in the male. It has always been universally true that to call a man effeminate is an insult. To say, however, that a woman is full of vigor is a compliment. It is only the aggressive or masculine woman who admires timidity or narcissism (effeminate traits) in man. And it is true that they marry this type.

A girl who consciously marries a man for social reasons—which never materialize—is usually bound to be disappointed. If the man's motives were ideal and he is of a very high type he is apt to react to the mismating by a neurosis, rather than by conscious resentment. The girl's less exalted ethical standard, and a probable justification on her part, will probably keep her from having a nervous upset (avoidance of a conflict in her).

It is not rare for a woman who marries for practical reasons to unjustly reproach her husband for not loving her (a compensation). Undue jealousy in a woman does not mean too great love for her husband, but, rather, is often a sign that she is not perfectly satisfied with him. In man, jealousy often means impotence, usually psychic.

Girls who are depressed at the time of marriage and who cry a great deal at such a joyous event not infrequently show feelings of dissatisfaction and even aversion after marriage. They show great interest only in themselves and seem to be quite fixed in their attachment to their parents. Sometimes they marry merely for convenience. Shortly after marriage this type of girl delights in long trips without her husband. She makes frequent visits to her parent's home, one of the few places where she seems to be happy. The only interest such women have in the husband's home is to eat in the same dining-room. In fact, the husbands are of very little affective value to them.

Narcissistic women hate anything which detracts from their beauty or which limits their self-indulgence. Because of their self-love, they are not anxious for motherhood. However, they usually rationalize *i.e.,* give other more ethical excuses for their failure to become pregnant: they are too weak; once had a "touch of heart disease"; are "inclined" to tuberculosis, etc.

In other words, fear of pregnancy in some cases has a selfish motive behind it, as fear of losing one's beauty; loss of independence and desire for pleasure; dislike of drudgery; desire to avoid being a slave to children, etc. The natural result of such an attitude is frigidity in the woman, who will use every excuse to thwart the biological aim of marriage. She thus not only physically, but psychically, castrates her partner; and in doing this she levels him to mediocrity, as she greatly reduces his incentives for success. Or else such an attitude may drive the ordinary man to extra-marital paths, unless the man's ethical standard holds him in check. But the ethical check often fails, which is not to be wonderd at, when one takes into consideration the polygamous tendencies (if not the practices) of some men. This explains why frigid wives often have Don Juans or Casanovas for husbands.

So, in all neurotic disturbances where marital dysharmony is a factor, you must get at the real mechanism of the disorder. In this way you will find much to aid you in diagnosis and treatment. Many so-called puerperal psychoses (ruling out most of the acute confusional states) are not due to a toxaemia; rather they are in most instances psychopathological reactions against an unwished-for pregnancy, or against some unbearable situation of a personal nature. The full mechanism will prove this to you to the certainty of an algebraic equation.

I have many case records conclusively showing the truth of the preceding assertions. To recite them in detail would take up much time. The problems referred to here are extremely important from the medico-psychological standpoint, in so far as the management of certain patients with neuroses is concerned. It cannot be too often reiterated that it is the duty of the physician to study the affects (emotions) of his patients. For we have not only a medical duty to perform to get at the root of these disturbances, but there is a social obligation involved as well. For purposes of readjustment the study must be intensive.

In conclusion, let me say that marriage is not a panacea for the cure of all neuroses. Marriage is not infrequently a difficult problem for some people to adjust to. It may not be the destiny for some.

Without doubt, there are individuals who can be happier single. But marriage is the normal state in our civilization, and if the married couple are well mated it will favor not only their health and happiness, but also their success. And yet, strange to say, in spite of the numerous pitfalls which might be theirs, most married couples adjust themselves comfortably well. This is all the more remarkable when one considers that parents rarely give any constructive advice to the young people. And, as far as helping the latter to adjust to the affective side of marriage, it is safe to assume that not 10 per cent of the parents are capable of managing this phase of the question for their children, even if they had the inclination to do so. Knowledge would prevent the making of many unfortunate marriages; it would also lessen dysharmonies and neurotic upsets in others. It is difficult to see how it could possibly do harm in any instance, *i.e.*, if given in the proper way and by thoroughly accredited persons.

The Use of a High Fat Diet in Diabetes Mellitus, with Report of a Case.*

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In reading the writing of Allen and Joslin, who may fairly be said to be the leaders in this country in the exposition of the modern treatment of diabetes mellitus, one is constantly impressed with the danger believed to be connected with the use of a high fat diet. The statement is repeatedly made that fat is the source of the dreaded acidosis, especially when the carbohydrates in the diet have been reduced to a minimum. A simultaneous burning of the carbohydrate is said to be essential to the proper combustion of the fats. Their insufficient combustion results in the formation of the ketone bodies—oxybutyric acid, diacetic acid and its decomposition product, acetone.

Rosenfeld states that fats are consumed in the fire of carbohydrates. Van Noorden seems to have proven that the acetonuria of febrile conditions can be largely prevented by supplying the tissues with carbohydrate. Two typhoid fever patients were observed. Patient A received but little carbohydrates and Patient B plenty. A had a marked diacetic acid reaction and B a faint trace. The diet was reversed and B now showed a marked diacetic acid reaction and A none.

Other writers have expressed themselves in the same way. The views mentioned are the orthodox ones. In the face of testimony from those whose opinions, by virtue of ability and experience, carry so much weight, it requires considerable courage to adopt a plain directly in opposition to ideas which many, perhaps, believe are established as proven.

However, Newburgh and Marsh,[1] in December, 1920, published a paper in which they disregard the current teaching and deliberately employ a high fat, low carbohydrate and low protein diet. They were led to try this method by the fact that in a considerable number of patients with diabetes, after they are rendered sugar free in the accepted way, it is impossible to raise their diet to a maintenance level by the usual high protein, low fat diet, without the recurrence of glycosuria. As stated by them, "this leaves the physician the choice of one of two procedures. On the one hand, he may keep the patient sugar free, but in so doing he renders him unfit for the ordinary activities of life because of the low energy intake. On the other hand, if he aims to avoid this incapacity for his patient, he must expect him to continue to suffer from the effects of hyperglycemia." They also state that they "have shared the belief concerning the danger of fat in the diet of diabetics and have investigated the effect of a diet whose energy comes largely from fat to which is added sufficient protein to maintain nitrogen equilibrium and the minimal carbohydrate necessitated in making up a diet that a human being can eat over a long period of time."

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Their routine procedure is to place the patient in the beginning of the treatment upon a diet of about 1000 calories, of which about 90 gm. is fat, 10 gm. is protein and 14 gm. is carbohydrate. After the patient has been sugar free for one or two weeks, his diet is increased to about 1400 calories, of which 140 gm. is fat, 28 gm. protein and 15 to 20 gm. carbohydrate. For small individuals this diet is deemed sufficient for continued use. For larger ones a second increase is made to 1800 calories, fat 170 gm., protein 30 to 40 gm., carbohydrate 25 to 30 gm. These writers conclude, after a study of 73 cases, unselected and many of a severe type, that a high fat, low protein, low carbohydrate diet is the only one which will prevent the occurrence of a serious acidosis, keep the patient sugar free, maintain nitrogen equilibrium and allow the patient to carry on his ordinary activities.

It is a well-known fact that fats, as well as carbohydrates, are protein sparers; that is, when they are given the amount of protein necessary to maintain nitrogen, balance may be reduced. Experimental work has shown, as stated by Lusk,[2] "Where there was much fat present, little protein was consumed; when there was little fat, much protein burned; and when there was not fat, protein alone yielded the energy for life."

When the usual high protein diet is used, it must be remembered that for every 100 gm. of protein ingested about 58 gm. of glucose may be formed and, this is probably the reason why so many patients show glycosuria on a high protein diet.

Woodyatt,[3] in an article of "Diet Adjustment in Diabetes," points out that the endogenous factors of the food supply are too often disregarded. When a man fasts he continues to produce heat, and "in fasting over 100 gm. of fat may be thrown into the metabolic stream and catabolized daily." He quotes Voit as follows: "To one dog which in starvation burned 96 gm. of fat, 100 gm. of fat was given, with the result that it burned 97 gm. The fat ingested simply burned instead of the body fat, but the total amount of protein and fat burned remained the same." Woodyatt also says, "If a patient while fasting burns 100 gm. or more of fat, the ingestion of an equal quantity of fat should leave his metabolism in the same state as it was before. The supply of fat would come at one time from the tissues and at another time from the diet, but the quantity thrown into metabolism would be the same in both cases. If these premises are sound, why then should we ever use complete fasting in diabetes?"

Newburgh and Marsh,[4] in a later publication, report a series of cases, 45 in number, in which numerous determinations of blood sugar were made. In 40 of these the blood sugar showed a satisfactory response to treatment. Of the 5 in which it did not, 2 had complicating diseases. There is another point of interest in this connection. All the foodstuffs taken into the body, with the exception of a part of the protein, become in the body one of two things—glucose or higher fatty acids. If we wish to accurately estimate the fatty acid to glucose ratio we must take into account, in addition to the carbohydrate intake 58% of the protein intake and 10% of the amount of fat taken in. Woodyatt's method of determining the ratio of fatty acids to glucose makes use of the following figures, in which G stands for the quantity of glucose and FA stands for the quantity of higher fatty acids that may be introduced into the body by a given mixture of carbohydrate, protein and fat.

100 gm. carbohydrate yields in the body 100 gm. G and 0 gm. FA.
100 gm. protein yields in the body 58 gm. G and 46 gm. FA.
100 gm. fat yields in the body 10 gm. G and 90 gm. FA.

Expressed in an equation, this would read—

(1) $G = C + 0.58P + 0.1F.$
(2) $FA = 0.46P + 0.9F.$

Woodyatt believes that acetone does not usually appear in the urine if the ratio of fatty acids to glucose does not exceed 1.5 to 1, if the diet is sufficient for the needs of the body ,so that endogenous fat does not complicate the calculation. If, however, the diets of Newburgh and Marsh are analyzed by Woodyatt's method, it will be found that the ratio of fatty acids to glucose exceeds in all of them the optimal considered safe by the latter. Instead of fatty acids to glucose of not over 1½ to 1, they all show a ratio of over 2½ to 1. It is evident that Newburgh and Marsh did not attempt to balance their diets by the same ratio.

Ladd and Palmer[5] have made some investigations of this subject. The emphasize the "importance of knowing the limits within which fats may be employed with safety." Diabetic patients, after being freed from excretion of sugar and acetone bodies, were put upon a diet with sufficient protein to maintain nitrogen equilibrium and varying amounts of carbohydrates and fat until the ketone bodies showed a definite increase in the urine. To determine the available carbohydrate, they take the carbohydrate plus 58% of the protein intake, as does Woodyatt. Their nine cases showed an average ratio of fatty acids to glucose of 3.06 to 1 before ketone bodies appeared in the urine.

Paullin and Bowcock[6] report 20 cases of diabetes, 5 of which occurred in children and young adults. There 5 suffered from the disease in a severe form, and after failing to keep them sugar free on a high protein diet, good results were obtained with the high fat diets of Newburgh and Marsh. They attribute their poor results with a high protein diet, as Newburgh and Marsh do theirs, to the fact that a little more than one-half the protein which is necessary in a maintenance diet appears in the blood as carbohydrate, hence the sugar in the urine and the high blood sugar.

Strouse[7] followed this method in six patients without acidosis developing in any of them and with good results. He believes that patients may receive a good deal more nourishment in the form of fat than we have for years considered safe to give. He wisely remarks that the method is new and, for its value to be proven, will require observation over months and years.

Any effort which strives to get us away from the rigorous starvation treatment in vogue at present would seem worthy of study. It may be well enough to try to starve a fat man, but with a thin and delicate young person the method is more apt than not to result in failure. The reports to the present date are few. The foregoing are the principal ones and they are all encouraging. The presence or absence of acidosis may be determined by simple methods.

Without doubt, patients vary in their ability to burn fat in the presence of only a small amount of carbohydrate. It seems fair to assume that some patients who have not improved when treated by the Allen method, would have made progress upon a high fat diet.

Many cases do well with the usual methods. For those who do not, a careful trial of the high fat diet, in the present state of our knowledge, is the proper procedure.

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REPORT OF A CASE.

It is with some diffidence that I report a case recently observed in private practice, on account of the small amount of laboratory work performed. However, if we are to attempt to apply modern methods to poor patients outside of a hospital, we are compelled to do without some of the procedures which are a matter of routine in a hospital.

The patient was a man, 63 years old, six feet in height and weighed 160 pounds. He said that a year ago he weighed 180 pounds. He gave a history of loss of strength in spite of a very good appetite, craving for sweets, polydipsia and polyuria. According to the statement of the patient, he had been under treatment by someone else for cardiac weakness and low blood pressure and advised to take a liberal diet. He did this; in fact, frequently arose at night and ate freely of cake.

Upon examination, his blood pressure was normal, and other findings were of no especial interest until the urine was examined. This was acid, 1030 S. G., no albumin or casts present. Upon bringing 5 cc. of Benedict's solution to the boil and adding the first of the usual eight drops of urine, the whole solution almost immediately changed to a red color. The Ferric chloride test for diacetic acid showed a very marked reaction. The carbon dioxide tension of the alveolar air by Marriott's method was 25. A quantitative test for sugar in the urine was not made, nor was the amount of blood sugar determined, but, in spite of this, it was evident that his urine was loaded with sugar and that he had a marked acidosis.

Treatment—Fats were first removed from the diet as advised by Joslin. Protein and carbohydrate were then reduced until the patient was on a diet consisting of broths, coffee and 5% vegetables. After three days he became sugar free. He was then placed on a diet of 15 gm. COH, 30 gm. of fat and 30 gm. of protein, chiefly eggs, broth and vegetables. This furnished about 500 calories and he was sugar free on this. Keeping the carbohydrate at about the same level, protein and fat were increased until sugar reappeared in the urine. This happened when he was given about 25 gm. carbohydrate, 80 gm. protein and 50 gm. fat, yielding less than 900 calories. Several attempts were made with diets of this type in which the protein was proportionately high. Sixty grams of protein was judged to be somewhere near his tolerance, and with the low fat and low carbohydrate was, of course, entirely insufficient.

It was then decided to try a high fat diet, and the first one of Newburgh and Marsh was used, which contains about 90 gm. fat, 10 gm. protein and 4 gm. carbohydrate. This course was adopted with considerable fear of an acidosis developing, and the patient was seen every day for several weeks and the urine examined for sugar and diacetic acid. The carbon dioxide tension of the alveolar air was also estimated daily. At no time has the ferric chloride test been positive while using these diets and the CO2 tension of the alveolar has not fallen below 35. He can now take a diet of about 1800 calories, of which about 170 gm. is fat, 30 gm. protein and 25 gm. carbohydrate, this being the third one of Newburgh and Marsh. On several occasions when he was allowed to eat bread made of casein flour, sugar reappeared in the urine. This flour, of course, contains a high percentage of protein.

His weight remains about 170 pounds. General condition is good, about four months after beginning treatment.

Fads With Failures Necessitate Facts.

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"An early diagnosis is half the battle," Osler. To this might be added, if it is correct, 40 per cent more.

We have no authentic date of the first case of illness, but from Biblical history it may be presumed that Eve must have suffered as a result of eating the forbidden fruit. It may have been colic, or, due to the chastisement, it may only have been a flurry in the nervous system that resulted. Nevertheless, had the same taken place to-day, Eve would have been ill and her illness, probably, have necessitated the services of a doctor; what the diagnosis would have been is only a question of the one she saw.

To-day we divide disease into two classifications: organic and functional. In the former there is a definite cause, a pathological condition, and as a result thereof a train of symptoms in which the cardinal ones are the same to-day as they were a thousand years ago. Of course, there are other and varying symptoms accompanying organic disease, and they may be of an entirely different character in different individuals; they depend entirely on the individuality of the patient.

The cause of organic disease is due to well-known factors: injury, infection, inflammation, irritation, poisons, etc. The cardinal symptoms are generally located at some specific part and are accompanied by fever, characteristic pain, increased pulse beats, and other definite and well-defined conditions that cannot well be mistaken by the experienced examiner in arriving at a diagnosis.

Functional conditions are not accompanied by an underlying pathological change, and it has been generally taught that they have no well-defined cause.

In commercial life it is a generally accepted fact, if one wants to correct an abnormality, ascertain the cause and remove the same. It is very evident that it has been a seeking for the cause of functional conditions that has given to the tonsils, teeth ,sinuses, ptosis of abdominal organs; in fact, not an organ in the body seems to have escaped as a possible location for a focus of infection.

It is true there is a cause, but if we must judge from results, it is not infectious, because individuals are not recovering from illness after submitting to the various procedures advised up to date.

The most important and always present symptom of functional conditions is pain. Accompanying this pain we find fatigue, unnatural discharges (leucorrhea, catarrh, etc.), intestinal manifestations, as dyspepsia, gas formation and uneasiness.

Although pain may be manifest at any part of the human body, its location is but reflex; the origin of pain is in the brain center. We realize that all energy which supplies tone to the different tissues and motion to every organ of the body, has its origin at the same place—the brain. Therefore is it unreasonable to suggest, where there is no well-defined cause evident in any case, if we look to the seat of all action—yes, even of life itself—we might find a cause there.

The blood has had most careful study. We know the significance of the different appearance of the cells, both red and white. We know that a very few minutes will tell us most clearly whether anemia is present or no, and, if such is found, we know at once what to do for its relief.

The very same can be said of the nerve cells, but the nerve cells as an aid in diagnosis can go a step further in importance than can the blood cells, for were it not for the nerve cells, which supply energy and motion, the blood cells could not circulate.

Blood has a specific nutrition, or food; so also do the nerve cells. Here, again, the nerve cells go one step further than the blood cells; in fact, further than any other structure of the human body, for they are capable of not only absorbing sufficient nutrition for the daily calls for energy, they create a reserve. Of course, this is a wise provision of nature. The nutrition of every cell in the human body is taken from the food we eat, but at times, from illness or other causes, food is not taken in what may be considered as normal amounts. We see anemia, flabbiness of the muscles and like conditions as a result of inanition.

The nervous system, to an extent, must suffer also; but here we find that nature has made an exception—the nerve cells are capable of receiving and storing an excess of nutrition which can be held in reserve.

As all the various organs must function constantly, and this energy is received from the brain, what might be the result during a siege of illness, when for weeks, even months, but little or no food can be taken by mouth, were not a reserve present?

But a thought further in another direction. Every action, thought, word or deed emanates from the brain. In this twentieth century, when every human being is at top speed, day and night, is it possible to think that the normal daily supply of nerve nutrition is capable of meeting the demand for energy? Were this so, we would never hear of people having to go to sanitariums, sound in bone and muscle, but weak in their nervous system, a tired nervous system—nervous prostration, or neurasthenia, as it is medically called. Tired nerve cells, due to insufficient nutrition, have a train of symptoms, in a similar manner as do red cells that are deficient in hemoglobin.

Nerves cannot speak, but they have a sign, however, that becomes most manifest when they are hungry; it is pain. Generally speaking, this pain is of an indefinite nature; it is seldom localized, although it may have an affinity for certain localities, as the head, chest, abdomen or lower extremities.

Fatigue is another commonly met-with symptom. The patient appears in the very best of health, yet seems tired, rest seeming not to relieve. Accompanying these conditions we find abnormal discharges: catarrh, leucorrhea; intestinal causing diarrhea from an abnormal amount of secretion. Digestive disturbances is another very common manifestation that may develop. Dyspepsia, heartburn, as already mentioned; gas formation and distress, even pain in the abdomen, are present in a more or less degree in fully 90 per cent of the cases, and, in the absence of any pathological condition to account for them, they are purely of a functional nature.

It may be easily understood why people with functional conditions may have a symptomatology involving any part of the body, and why the symptoms can at times involve the whole structure. The nervous system sends its ramifications to every quarter; except the nails, hair, cornia and epidermis, no structure is nerveless. Therefore, when conditions arise that interfere with the center that furnishes the energy, is it unreasonable to suppose that any part of the body may suffer?

It has been generally taught that functional conditions have no cause; when they did not recover, the mind was given as the causative factor.

Not recovering, another step was taken, and infection was advanced as a cause and a local focus sought for, in the region of which the physician was specially interested. Thus, from the nose and throat men we have the tonsils, teeth and sinuses; from the abdominal surgeons the appendix, diverticula of the intestinal tract; the gynaecologist says it's the tubes or ovaries, and the genito-urinary man the prostate.

It is not anything new that the writer would advance; we have, in all probabilities, too many new things now; but attention is called to the nerve cells, their nutrition and how it is being used.

The nerve cells have a specific nutrition: phosphorus, lecithin and nuclein. It is taken from the food. Used as a nutriment, and after performing its function the residue is passed off in the urine in the form of alkaline phosphates, or end products.

This form of phosphates must not be confused with the earthy, or those that are found in freshly passed urine, or that may appear on boiling; the alkaline phosphates are never seen except after precipitation with the alkaline solution,* they appear as crystals resembling the fern leaf, but are of varying size and form, according to the condition of the reserve and action of the neurones. The crystals may be viewed in the same light as red cells. Thus we have (A) normal, with well-formed fronds; (B) showing a want of nutrition, light in character, with edges saw-like in shape; (C) from the third week of utero-gestation to the end of the third month, with the great majority devoid of fronds, simply a straight stem; (D) having no characteristic form and indicating present or oncoming neuronic degeneration (the writer has observed this form nine times; seven became insane in from two to ten months after discovery, two became normal after energetic treatment); (E) normal in shape, but very small, showing great irritability of the nerve cells and neurones.

Estimation of the alkaline phosphates, known as the Phosphatic Index, is easily and quickly carried out. Use the second urine passed in the morning, fill phosphatometer with urine to U, add solution to S, shake thoroughly and set aside for ten minutes. A white precipitate should form at once, which, if it remains at NP in a practically solid mass at the end of ten minutes and the crystals are A, shows that the nervous system is not a factor as to cause in any condition that may be under consideration, and nutrition is present in normal amounts.

When it does not sink, remains light and fluffy, or goes below NP, nutrition is low; a similar condition exists as a deficiency of hemoglobin with a low red cell count. Nutrition is being called for, and very little, if any advance will be evident in any case, functional or organic, until the want is supplied.

When the precipitate remains above NP, in a practically solid condition, irritation of the neurones, or cells, are in evidence, and sedatives are indicated.

Finding such a condition, and giving sedatives—the bromides and valerian, if acute; the bromide of gold and arsenic, if chronic, as is practically always present in high blood pressure—is quickly followed by the happiest of results.

Hundreds of cases might be reported where, after complete failure from all sorts of medication, and especially cases where the cause was thought to be infection from a local focus, but removal of some part of the anatomy failed to bring about a normal condition: taking the phosphatic index and prescribing as it indicated was followed by prompt return to a normal state.

The following briefly reported cases show what results may be obtained by the discovery of the true cause:

(In this case I did not see the patient, the wife of a physician). The doctor informed me that his wife had been failing in health for some time, losing flesh, insomnia, more or less gastric disturbance, tired at all times, and severe pain in the intercostal region under the right scapula. (Evidently this was neuritis.)

Receiving no help as applied by the husband, she was passed along the line for group diagnosis; result, removal of the tonsils. Following the operation, with six weeks of local treatment and no change, an index was asked for. A trace of albumin indicated anemia; no casts or other pathological change was evident; the index was 90% minus; crystals B, and very poor ones at that. A mixture of phosphorus was ordered, in connection with valerian. In four days the doctor reported improvement; in ten days she was perfectly free of pain and feeling decidedly better; no albumin, sleeping well; she gained ten pounds in a month.

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* Mag. sulphate, Ammo. chloride, aq. ammo. (10%), of each an ounce; water, 8 ounces; mix, filter, cover while filtering; let stand a few days before using.

(Case reported by Dr. Preiss): Mrs. F. Facial neuralgia of a most aggravated type. An X-ray examination showed pus at the roots of the teeth, and seven were extracted. Pain returned on the third day, as severe as ever (evidently the shock from extraction quieted it temporarily). She consulted Dr. Preiss, who made an index, 75% minus was found. A similar preparation of phosphorus was ordered to be taken three times daily. On the fifth day she reported as free of all pain; said she felt decidedly better physically; pain had not returned a year afterwards.

Functional illness, or conditions in which there is no true underlying pathological condition, constitute a large majority of the cases that we see, especially those consulting us at our offices.

The cause is not due to infection from a local focus, but is due either to a want of nourishment in the nerve cells or an irritated or hypersensitive condition of the nerve cells and neurones.

Argument of the question seems unnecessary. It may be granted that, at times, tonsils, teeth, etc., may be a cause of trouble and should be removed. But—and we are hearing it on every side from patients, and now in medical journals—people are not getting well; the cause of their trouble has not been located.

It is very evident that patients telling us they have received no benefit from treatment does not end their case; they go further, and tell us that they were obliged to go to others, and not members of the old and respected medical profession, and did receive help.

We know that anything that the others can do must be through mental impression. Why cannot we do the same, only more quickly and permanently?

EDITORIAL

Damn That Phone!

FORTY-FIVE years after the invention of the telephone, Europe has only one telephone to each 100 of the population. With only one-sixteenth of the population of the world, the United States has two-thirds of the world's telephones. There are more telephones in New York City than in the whole of any foreign country, excepting only Great Britain and Germany. Chicago has more telephones than France, Spain and Portugal combined.

The Bell system is adding as many new telephones each year as there are in all France. As for rural telephones, practically the only farm telephones in the world are in the United States, where the number is now over 2,500,000. Elsewhere, this field of service has been almost wholly neglected.

These facts in respect of telephone plant and station development afford substantial proof that the telephone service in the United States is the best and cheapest in the world.

The above interesting statement is quoted from the annual report of President H. B. Thayer of the American Telephone and Telegraph Company. It would be even more interesting if it were possible to tabulate the coincident increase in nervous irritability of the great American people as a result of telephone annoyance. If the engineers of the company could devise methods to register the number of interrupted meals, disturbed hours of sleep, and, more than all, the aggregate mental burden caused by answering questions for the brainless, solving problems for the stupid and thinking for the thoughtless, to say nothing of the time wasted in unprofitable conversations with the idle, the report might take on a different aspect. Doubtless the telephone has mighty influences for good. Who can find fault with an instrument that unites the parted, communicates our joys and sorrows and contributes so much to our safety, comfort and convenience? And who will not wish out of his house a tool that seems to bring out all the spite, impudence, selfishness and petty malice of which man and womankind are capable? Who would dare to be as impudent to you, face to face, as he is over the phone? Who would dream of ringing your front doorbell at the unholy hours that he chooses for his phone calls? The man who is rude in his insistance that you come to the phone for his present whim would cool his heels for half an hour in your waiting room if he were told you were engaged, and not show his impatience, either; and as for the accursed women who insult your wife when she meekly asks if she may not take a message for the doctor, there is a special hell set apart for them in the hereafter, with a cool and delightful gallery reserved for doctors' wives to gloat in. When one considers this other side of the telephone question, the side not mentioned in Mr. Thayer's report, one wonders whether the absence of rural telephones in France is a blessing or a curse.

H. G. W.

The Nursing Problem Again.

BY no means the least interesting part of the program of the recent meeting of the American College of Surgeons, which was reported in full in *Surgery, Gynecology and Obstetrics,* was a discussion of the nursing problem, which was participated in by Dr. Charles H. Mayo, Miss C. Lillian Clayton, representing the Department of Health of Philadelphia; Miss Katharine Tucker, representing the Visiting Nurse Society of Philadelphia, and other physicians and nurses. It is quite evident that the most interested third party, the general public, was not represented. It is perfectly natural that there should be two opposing points of view, because the average physician is interested in seeing that a nurse is educated only so far as is essential for the intelligent care of his patient; while the nurse's angle of view goes beyond, to include educational requirements such as are demanded of supervisors of training schools for nurses, teaching positions, and that ever-growing list of semi-independent places of responsibility, which includes public-health work, industrial nursing and other allied positions. Let us also state what the general public is interested in. The general public is made up of a few of the very rich, more of the well-to-do, many poor, and a very great many who are self-supporting with limited means. The latter class is the backbone of the American Republic, and they cannot pay seven dollars a day for eight hours' work. They recognize this and resent a situation which has been taken advantage of, so that they are for the most part unable to provide what they most need in sickness—nursing care within their means. It is quite natural that the hospital training school should plan for a high type of training for its pupil nurses, because it is from them that superintendents, instructors and supervisors must be recruited; but it is a matter of indifference to the man of limited means whether the nurse whom he is obliged to hire for the sick member of his family is qualified to teach other nurses, so long as she is able to exercise ordinary care, cleanliness and discretion in a sick room. Placed squarely on its merits, the question then is, how may we provide the right kind of sick nursing for the average income? It is manifestly impossible for the small income to be stretched to meet a demand which at present calls for two nurses to cover twenty-four hours' work. This item is fourteen dollars a day; in addition, there is the cost of extra food, sick-room requirements, doctor's bills and laboratory charges. This will probably aggregate about twenty-two dollars a day for the period of acute sickness, and if it is the wage earner who is ill it does not take long to exhaust his financial resources. It may be conceded that a maximum annual income of $2550, which is what a trained nurse might earn if she worked every day in the year, is not an excessive return for three years of study. It is also acknowledged that the nature of her work, the necessary rest periods, the irregularity of employment and the short average life of the trained nurse, make the rate a moderate one. It is also recognized that the actual number of registered nurses who are available for private duty is much below the demand, because some 50 per cent, or thereabout, marry, and the demands of health-board work, industrial nursing and welfare work of all sorts, which are constantly increasing, are drawing a progressively larger number away from private nursing. Much attention has been given to this question of providing intelligent sick-room help for those who cannot afford to pay lavishly. It was shown during the war that intelligent women with a good preliminary education could be fitted to do admirable work in six months. The various Y. W. C. A. Associations are endeavoring to provide nurses of two classes: those who are theoretically instructed and some who have had a brief supplemental hospital course. But their efforts to provide the right kind of sick-room attendants are largely handicapped by the class of women who have hitherto applied for this sort of training, among whom are many who use their position to demand much more than they are worth. Thirty-five dollars a week in Brooklyn is still beyond the means of most patients, especially when they are getting only fifteen dollars' worth of service; for the tendency of those who do not realize their limitations is to assume responsibilities for which they are unfit. The proposition has been made that hospitals should offer two courses of training, graduate and undergraduate; the former a long course which shall fit graduates for any form of nursing service; the latter. a course of a few months, but enough to teach the actual care of the patient and to train the fingers to appreciate changes in pulse, respiration and facies, without too much time being given to materia medica and the like. It has been suggested that these supplemental short-term students would be of great value to the hospital by increasing the staff of attendants and releasing the long-term pupils from much of their present routine duty. Against this plan, more than one hospital supervisor with whom the writer has discussed the subject has urged two objections that they regard as insurmountable. The first is that the State nursing law enforces certain preliminary requirements and that any applicant capable of meeting these requirements would not consider the short course. The second, that such an arrangement would call for separate dormitory, dining rooms and class rooms. To one on the outside, neither of these objections seem cogent. As these are not to be regarded as graduate nurses, there is no reason why they may not be admitted to the privilege of instruction if the hospital so desires, in the same way that special students are often admitted to our universities. For the second objection, we throw up our hands. With every added year which points our lengthening shadow toward the sunset, we realize more and more that we do not understand women, and if a training school supervisor decides that she won't mix two kinds of women, then it can't be done (unless, of course, we get a new supervisor). Some of the city hospitals have afforded limited training opportunities to women who are taking the Y. W. C. A. course, but the city hospitals have certain limitations, especially in regard to the type of patients who make up the bulk of their cases, and it is a great advantage for one who purposes to care for all sorts of sick folk to learn the ways of those who are more cultured, if it is only for the sake of studying human nature. There is, we fear, a lurking suspicion on the part of the graduate nurses that the medical staff might throw too much patronage to the cheaper sisters and thereby reduce the average income of the graduates. This is precisely what would happen, because the average doctor, in spite of aspersions in the public press, seeks to consider his patient's pocketbook. He also feels a little resentful that he should have to curtail his own expenses, and thereby reduce his own income, in order that there shall be money enough to pay for nursing. These last remarks will doubtless be offensive to registered nurses, but they are not offered in a spirit of unkindness. There are many graduate nurses who sacrifice themselves freely for their patients and whose wholehearted cooperation we often have been grateful for, but, unfortunately, there are a number who have seen fit to commercialize their work, with the result that they have succeeded in antagonizing the profession which created them. Until the broader-minded women of the nursing profession can restore the full spirit of idealism, this antagonism will persist in greater or less degree. It remains for the leaders to recognize this nursing problem and put themselves squarely where they should be, in full cooperation with the other members of the triad—the doctors and the public.

H. G. W.

Society Transactions

Transactions of the Brooklyn Surgical Society.

Joint Meeting With Brooklyn Pathological Society, April 7, 1921.

SARCOMA OF LONG BONES.

Dr. Russell S. Flower:

"I agree with all that the speakers have said, but I haven't the same outlook upon the final results that have been quoted in the statistics of the last speaker. I have never seen a case of bone sarcoma of the long bones remain well for over three years.

"Many years ago, when I had some cases of sarcoma of the lower end of the humerus, I reported them before this society, and one of them was a case of a lady 54 years of age, in which the disease involved the soft parts. That case lived for three years afterwards, and finally died. At that time I looked up the results of sarcoma of the lower end of the femur and found that out of 100 cases which I looked up at that time not one had lived without recurrence for more than a year. I call to mind a case of sarcoma of the upper end of the humerus which was rather interesting—a Jewish boy—in which I did an intrascapular amputation for a primary growth in the upper end of the humerus. The disease had not gotten out of the bone and had not involved the soft parts, but, nevertheless, some six months later an exactly bilateral tumor formed in the upper end of the humerus on the other side.

"I think the outlook in bone sarcoma is extremely unfavorable. I do not know of any case that has been helped by Coley's fluid, although I have treated cases with it. I have seen some remarkable cures without operation in sarcoma of bones where the disease has not been diagnosed by the pathologist, but by the clinician, and where amputation had been advised and refused, and the patient has gone home and gotten well with various forms of treatment.

"Dr. Fiske's remarks relative to the point of early diagnosis were well taken. Unfortunately, the surgon does not see these cases early. The medical man does not send them to the surgeon early enough. When the surgeon gets them, they are for the most part already spread beyond the bone and are practically hopeless as far as a cure is concerned.

"One word as to Coley's fluid. I have a patient in Brooklyn here whom I cured some eight years ago of a sarcoma of the soft parts (this is really aside from the question, but the case is so interesting that I thought I might tell you about it), occurring under the chin. That was passed on by three pathologists as round cell sarcoma. I attempted to excise it, but it was too wide, so I could not make a complete operation of it. The growth continued to grow. I put him on Coley's fluid and ran him up to 15 minims every day at 4.00 o'clock in the afternoon. I think it is wise to give it at a certain time each day, particularly in the afternoon, if you expect any benefit from it. The dose must be carried high. At 15 minims he was so sick that he refused any further treatment. He thought he would consult Dr. Coley. Dr. Coley reduced the dose, with the result that the growth began to increase in size. After a week he came back, and I again raised the dose up to 15 minims, which stopped the growth, and at 17 minims it receded, and continued to recede. The man was under treatment and observation for six months and has remained cured for eight, or perhaps even longer than that number of years. But as for sarcoma of the long bone, I have never seen a permanent cure, once the diagnosis has been established, through the medium of the toxin, radium, X-ray or radical or conservative operation."

Dr. George I. Miller:

"I haven't had very much experience, but can recall three cases, one of which was treated for me by the late Carl Beck at St. Mark's Hospital. This case was that of a young man who had an osteosarcoma of the lower end of the femur. He was sick for about six months when he came under my care. After amputating the upper part of the thigh he lived for about six months and died. I had another case, that of a man about 30 years of age. I used Coley's fluid in this case. Following its use, he had such violent chills that they nearly threw him out of bed, and after three weeks' treatment he disappeared and I was unable to get any track of him. I had another case of peculiar variety, known as a fascitis, a child about 4 years of age, sent to me from Philadelphia by a pediatrician there of reputation, who had treated the child for fascitis, and had never heard of a similar case. The family insisted on his sending the case to me, so he referred the case to me. I was the unfortunate to see the case in the sense that I couldn't do anything for the family or the patient. That child did not have a myositis ossificans, but a fascitis which separated the muscles of the calf, the thigh and the shoulder to the extent of a fibrosis, and when the pathologist asked if anybody had ever seen a case of the bones, I have in mind a case of fascitis, not an ossificans. In that case I applied no treatment of any kind, and simply told the patient to travel further with the case."

Dr. James M. Downey:

"I have for some time past decided in my own mind that the conservative treatment of sarcoma of the bones is the ideal treatment.

"About eight years ago I had a young man who had been struck on the back with a racket, and a small tumor appeared there in about three months' time following the injury. I made an incision and had a pathological report on the case, and the report showed it to be a round cell sarcoma. I took this boy over to Dr. Coley, with the slides and history of the case, and placed him under his care. At that time he stated he was an ideal case for his toxin. He treated him for about five months, and at the end of that time the tumor had increased to the size of a large melon. He continued to look after him on and off for about two months. Later the boy got a metastasis in the lung and died in about a year. That was one case I remember very well in which Coley's serum had a very disastrous result. Every time he had an injection his temperature went to 104, he had chills and begged to be taken home.

"I had another case in which the serum was used—a case of sarcoma cutis. This patient, a boy, had probably 150 growths on the skin, varying in size from a pin head to a pigeon's egg. I treated him myself in the hospital under Dr. Coley's direction. After the injections his temperature would rise to 104 or 105 and he became very sick. After treating him for a month he refused to continue treatment and left the hospital, and I lost track of him.

"In regard to the conservative treatment of the giant cell form, I had one particular case which I presented to the Surgical Society about six years ago, in which there was a large tumor at the head of the humerus, about the size of a baseball. Then we opened up and curetted and dressed and treated it in a conservative manner. The growth returned, and the second pathological report also showed that it was a giant cell sarcoma, and it was again curetted. It finally healed and she had a very useful arm, and continued so for over a period of the two years in which I was able to follow her up.

"I fully agree with Dr. Fiske in regard to the clinical diagnosis, that it should be made early, and not when they come around with a pathological fracture or involvement of the tissues, so that there is nothing left to do except amputate or leave them alone.

"With respect to treatment by X-ray and radium, I would say I have had no experience. I believe in the conservative treatment of sarcoma of the bone.

Dr. Frank D. Jennings:

"I would like to ask some questions of Dr. Clark. What is his opinion as to the work of Barrie and Stillman on hemorrhagic osteomyelitis, as contrasted with giant cell sarcoma? I would also like to ask him whether or not early diagnosis is always the answer for a good result or bad result? Also, whether the tumor varies in malignancy; as to the dangers of biopsy; as to whether the character of the tumor ever changes, thus accounting for the different reports by different pathologists, not necessarily on the same specimen, but at different times on the same case.

"I might say that one of my reasons for asking the question as to the early diagnosis is that the case Dr. Williams showed, in which there was a tremendous sarcoma of the upper end of the tibia, is a patient of mine whose leg I amputated six years ago and is still living and well. That case has been reported to Dr. Codman, who says he has no other case like it, nor has he a record of such a case or anything to compare with it, except a condition described by Virchow a good many years ago.

"I would like Dr. Williams his opinion as to the value of routine examination of the lung fields by X-ray before undertaking operative procedure at all on malignancy."

Dr. William C. Clark:

"I read the articles by Barry, not completely, but portions of them, and those giant cells that he shows in the presence of various foreign bodies, some of the men in the laboratory have produced experimentally, using gun cotton, which is practically cellulose, which was washed carefully, and when it was introduced into the tissues regularly, that picture he shows has been produced and grows. I had it in mind when we were talking, but here are so many types of foreign bodies that produce this picture of so-called giant cell sarcoma, if you wish, that it is hard to pick out one that does not result in such giant cell formatiotn.

"The early exploration of bones is, I think, a good idea, but I was wondering how you are going to find the patients. As was brought out, the medical men keep them, possibply; but, even so, I think you will find the histories are very brief in many of those cases at best, and they have the large growth Dr. Fiske mentions, oftentimes in duration of a month or so, or, at the best, they say that they knew of a swelling for a few months. They may have had pain or some other condition. But I would like to ask Dr. Fiske how many cases he has cut down on so early that there wasn't really an extensive tumor mass showing?

"I don't know what to say about Coley's fluid. You did not ask this question, but it came to my mind. I chanced to be the surgical pathologist at the General Memorial Hospital for nine years, where those cases were coming in all the time; and this Dr. Matthews here, who was one of the interns, and we saw the cases year after year, and I think some of the cases have accumulated as cured cases which subsequently came back and had a metatasis and went on and died.

"Now, you see, as I saw it, making the pathological report on the cases, about every so often so-called cured cases with Coley's toxin would be reported. They were all put in the records apparently. Some of them were only treated for a few months, some possibly a year, and two or three years subsequently practically all of them seemed to return, or were lost sight of absolutely, and if they were lost sight of absolutely, the burden of proof is on Coley's fluid to find out what became of them."

At this point in his remarks, Dr. Clark referred to Dr. Frank Matthews, who was attending surgeon at the General Memorial Hospital for very many years, and said that he had a number of cases of sarcoma. Dr. Clark mentioned Dr. Matthews' hospital connections and stated that he had collected a number of cases which showed a quiescent period of one, two, three and four years; they they apparently resolved and then recurred, and went on and died. Dr. Clark said he knew of two such cases at the Presbyterian Hospital, one of Dr. Brewer's and one of Dr. Lambert's. One was an enormous growth of the sternum which was about ready to ulcerate, and Dr. Blake, who saw the case, thought it would be just as well if the mass were cut away. "Strange as it may seem," Dr. Clark said, "the wound healed." The patient in this particular case was a rather intelligent person, and Dr. Lambert was anxious to learn what had happened to him. He lived in Bridgeport, and Dr. Lambert followed him for three or four years. "You might say," Dr. Clark remarked, "he was cured. He received no outside treatment of any kind. Five years later he had an extensive growth which killed him. If he had been treated conservatively, possibly with potassium iodid and Coley's fluid for a time, in our enthusiasm we might say he would have been cured."

Continuing his discussion, the speaker said:

"I would like to know what this Dr. Matthews has to say of the cases he observed while he was in the General Memorial Hospital. Dr. Bull had some experience with it. He felt a great deal of care should be shown in its use. Some of his cases were benefited by it. Dr. Brewer has used it extensively. He knows of one case of ten years' standing where the growth disappeared. Let us say that is a definite cure. I think, if you take those cases and pursue them relentlessly, you will find the percentage (of cures) will have to be reduced very low."

Dr. John G. Williams:

"In answer to Dr. Jennings' question, I would say that I think all these bone sarcoma cases should, at least, have a radiographic examination of the lungs, because they usually recur there or metastasize there. I am more apt to do that in cases referred to me for therapy than in cases sent for diagnosis, because they are sent to make a diagnosis of their condition, and the other examination is not asked for, and, in fact, they wouldn't accept it if it were offered to them.

"In regard to the X-ray treatment of the bones, I would say that I do not see very many of those cases. A few years ago, however, I did treat some cases. I had one case of Dr. Kennedy's, a sarcoma of the ilium, that I treated very intensively for a time, and the tumor disappeared. She had a tumor of the dorsum of the ilium. She lived for about six years, and then died of metastasis.

"I saw a case the other day, illustrating how little faith can be placed in so-called cures in these cases. This patient was a woman 79 years of age, who twenty-five years ago had both breasts removed for carcinoma. She has had no symptoms of recurrence until very recently, but on examination I found extensive metastases in the pelvis bones."

Dr. Harvey B. Matthews:

"It seems unusual for me to speak on this condition, but since I did have quite an experience with Coley's serum, having been in this hospital sixteen months and Dr. Coley resident for four months, I think that some of the observations that I made at that time are still hanging in my head somewhere.

"I think Dr. Fowler hit the nail on the head when he said that he had never seen one of these cases of bone sarcoma recover.

"Dr. Clark mentioned the fact that some of these growths apparently became quiescent, and it doesn't make any difference whether you use medical treatment or surgical treatment, Coley's fluid, the X-ray, or what not. With this quiescent period of one, two, three, four or five years, or even longer, in cases in which that takes place the particular form of treatment resorted to would receive credit for the cure of the condition.

"There is no doubt but that these bone sarcomas do have, or some of them, at least (it does not make any difference what the variety is), a period of quiescence. Perhaps the spindle cell type has a longer period of quiescence, or the giant cell type has, perhaps, a longer period of quiescence; for instance, the small or large round cell type; but they do very often have a quiescent period.

"At the time Coley made one of his reports at the New York Academy of Medicine he reported, I think, twenty-one cases. I looked up the data for the report on those, and he reported one case that night of a cure of a giant cell sarcoma of the antrum of Highmore, and it was not two weeks after that report was made till that boy came back to the hospital and died there in three weeks after his return (he lived in Nebraeska) with an enormous recurrence in the antrum of Highmore, and that was one of the cases he had reported as cured.

"I think, if these cases are followed for an indefinite period religiously, say, over seven, ten or fifteen years, one would find that they finally would have a recurrence, and I think, as Dr. Clark said, if these cases that are treated with Coley's serum, even including the cases he treats himself, were followed, it would be discovered that the mortality statistics would be very much higher than has heretofore been reported.

"I regard to the dosage, as was mentioned by Dr. Fowler, I would state that the highest dose I ever gave a patient was 25 minims, and I sat up all night and did everything that I could to keep the patient from dying. He finally did die. I think it was from the dose. I called up the doctor and he said to give it, although I didn't want to do so. As Dr. Fowler said, he didn't give more than 15 minims, but we used to run that up and it was not uncommon for us to give 20 minims. Twenty-five minutes was the highest I ever gave. This particular patient I speak of was very sick. Maybe it is not fair to say that the serum finished him up, but it seemed to me like it did. I had a very serious reaction.

"In the final analysis, I think there may be a few giant cell or spindle cell sarcomas that have been, at least, kept quiescent, and, when so, entirely cured by Coley's serum; but I think, in the final analysis, that the reported cures are very much less in number than have been heretofore reported."

Dr. Edwin H. Fiske:

"In answer to Dr. Clark and with respect to the remarks of Dr. Fowler, I would like to say that I don't think it is quite true that the medical man alone needs education on this question, for the simple reason that in the Kings County Hospital the most of the cases we have are sent in from other hospitals, as shown by the fact that two of these cases came from other hospitals, after months, without a proper diagnosis; and I am sorry to say that we ourselves in our hospital are also remiss, one of the cases being in the Kings County Hospital for a period of five months, and there was nothing on the chart to show that she had a myeloma. One case was in another hospital for seven months without a proper diagnosis, the patient having a fibrosarcoma and being treated for an infected knee joint. The other case was in another hospital for a period of four months. Now, that case that was treated for an infected knee joint was one that the medical man had nothing to do with.

"We must educate ourselves first and should think more about this subject. We are remiss in the early stages, as well as the medical man, and we cannot expect the medical man to do it unless we insist on the possibility of the thing, which I think is possible, because I have an X-ray here——. For instance, in that myeloma case, the doctor asked if we got that case fairly early. We got it before any extensive involvement occurred, as shown in the X-ray; and it is possible to get them, because occasionally they have been found by other men throughout the country in their early stages in routine examinations, such as the X-rays, in cases of doubtful pain.

"In regard to the point that no cases of sarcoma have ever cured and the general pessimism as to the treatment of sarcoma. I don't think that is fair. There must have been something good in Coley's toxin, if these cases got well under Coley's toxin; even if there was only one case, there must be something good in Coley's toxin. If a case is not suitable for its use, it should not be given, and we should not give more than the patient can stand.

"If Coley is exaggerating his reports, Dr. Clark reports six cases that he has cured of a malignant type of sarcoma. I don't thing Bloodgood is a liar. I think he is honest in his reports, and some of his cases, particularly of the giant cell type, have been running for years. Read that article by Bloodgood and see the length of time his cases have been running. Note the X-ray and other routine examinations of his cases.

"I think we should use these different things guardedly. We should use the X-ray both before and after operation; and if radium is good (perhaps it is better than the X-ray—I do not know—I thought Dr. Williams would tell us about that), we should use it. Even if it gives them only a recession of four or five years, that it a great deal better than we can do when we get the cases in our institution in the shape they are in at the time we get them."

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MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of
this Department, 1313 Bedford Ave., Brooklyn, New York

March, 1922 4 Pages

DISEASES OF THE STOMACH.

MANUAL OF DISEASES OF THE STOMACH. By William Maclennan, M. B., with the assistance of J. Salisbury Craig, M. B., Ch.B. New York, Longmans, Green & Co., 1921. 392 pages, illustrated. 8vo. Cloth, $7.50.

This new work, from the pen of a well-know English teacher, meets the author's purpose of "a short, practical manual," which he hopes will be found a useful introduction to study of gastric diseases. It is a very well arranged treatise based on a large experience. It begins with the elements of anatomy, physiology and chemistry as applied to pathology in this important organ. The various clinical (history details and physical examination) and laboratory methods of diagnosis are included. The author would lend much to the description of the different tests were he to express his opinion as to their diagnostic value. The chapter on diseases of the oral cavity is very meagre. The section on organic diseases is very commendably treated. Physiological underlying gastric symptomatology, though scattered, add interest and create impressions that last. This latter feature appeals greatly to the student. Comparatively as much attention is paid to the functional as to the organic disorders of the stomach. Great care is exercised in differentiating these classes of disease; so one learns that not every stomach symptom spells stomach pathology. The glossary, containing a list of various apparati and reagents, is a valuable part of the book. The author gives many prescriptions useful in this branch of medicine. An entire section is devoted to the reflex symptoms as caused by pathology in other organs. Here the diseases of the gall bladder, pancreas, intestine, kidney, heart, lungs and blood are mentioned in the light of their effect on the "spokesman," the stomach. All subjects are treated with an aim that is successful; namely, suitable to the student and practitioner.

B. M. Eis.

COLLECTED PAPERS OF THE MAYO CLINIC, 1920.

COLLECTED PAPERS OF THE MAYO CLINIC. ROCHESTER, MINNESOTA. Edited by Mrs. M. H. Mellish. Vol. XII, 1920. Phila. and London, W. B. Saunders Co., 1921. 1392 pages, 446 illustrations. 8vo. Cloth, $12.00.

One is deeply impressed with the profundity of this latest book from the Mayo Clinic. It is by all odds the finest of the many fine works that have come from Rochester. After reading the book one feels as though he had taken an unusually well-rounded post graduate course at the Mayos.

Much space is given to medicine and allied subjects. Thirty pages are given to angina pectoris. There are many electrocardiograms.

Ductless glands receive careful attention and the findings are brought to date. Thyroid hypertrophies are classified into simple groups and the writings on the subject are most illuminating. One understands from the bibliographies that the information is gathered from many sources.

Studies of influenza and pneumonias present articles of unusual merit and worth. One hundred pages are given to the study of the blood, fifty-two pages to the study of the heart.

The text on surgery seems unusually interesting, possibly because it deals with everyday cases such as one meets in his daily work. Spina Bifida, with a report of 187 cases, deserves special mention; also Osteitis Deformans (Paget's disease), which includes reports on 15 case histories.

Those interested in research work, pathology, biochemistry, physiology of the thyroid, bacteriology of infectious diseases, physiology of shock, physiology of the suprarenals and liver, pathology and biochemistry of malignant tumors, fluoroscopy, cardiography, basal metabolism, etc., will find a wealth of information.

Harry R. Tarbox.

SANITARY ENTOMOLOGY.

SANITARY ENTOMOLOGY; THE ENTOMOLOGY OF DISEASE, HYGIENE AND SANITATION. Edited by William Dwight Pierce, Ph.D. Boston, Richard G. Badger, 1921. 518 pages, illustrated. 8vo. Cloth, $10.00. ,

This volume is composed of a series of lectures dealing with entomological problems from the standpoint of municipal, industrial and household problems. It contains the most recent information on the relation of insects to disease. The various articles have been prepared by various experts, all of whom are connected with the Government service.

Not only is the relation of disease to insect life considered in careful detail, but the life histories of various insects are also carefully covered. The chapters devoted to the practical discussions of the control of disease-carrying insects are particularly well written.

The book is not only valuable to the student of preventive medicine in the human body, but is also of great value to the veterinarian and others interested in stock. The index is very complete; the illustrations are many and good. Complete lists of references are also given, so that one who wishes to look up further any particular phase of the subject may readily do so.

His work on the perineum is very good. This difficult layout of the parts is shown in true order and made clear as one dissects. The order of dissection in the abdomen, with the instructions as to each organ, is as it should be. The relation of the different organs to one another is precise. The blood supply is minutely brought forth. The gross anatomy of the abdominal contents is, in each individual organ, plainly described. What is said about the abdominal cavity is true as to the thoracic.

The text on the soft tissues of the trunk and that of the hard parts is all that could be asked.

The printing and makeup of the book is good.

Norman Philip Geis.

A POCKET SURGERY.

A POCKET SURGERY. By Duncan C. L. Fitzwilliams, C. M. G., M. D. 'New York, Longmans, Green & Co., 1921. 348 pages. 12mo. Cloth, $3.75.

Dr. Fitzwilliams' "Pocket Surgery" is unique in the vast number of diseases which it covers and the condensed form in which he has been able to place these conditions before the medical profession. The book is intended to give all the necessary headings, with the definition, diagnosis, symptoms and treatment, in a compact form. The book should be well received, as it is a handy edition which may be carried in the doctor's bag, and will at all times be a valuable aid to the student and physician as a ready reference.

R. F. H.

SURGICAL CLINICS OF NORTH AMERICA, OCTOBER, 1921.

SURGICAL CLINICS OF NORTH AMERICA. Published bimonthly by the W. B. Saunders Co., Phila. and London. Vol. I, No. 5, Oct., 1921, Mayo Clinic Number. Per year, $12.00.

The contributors to this volume are members of the Mayo Clinic or on the staff of the Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota.

Dr. Balfour describes the use of the actual cautery in cases of benign lesions of the stomach and duodenum. Six cases of gastro-jejunocolic fistulas following gastro-enterosotomy were reported by Dr. Rankin and Dr. Charles H. Mayo.

Dr. Hunt reported a high diverticulum of the bladder, and in another paper reviewed the symptomatology of the acute abdomen.

Dr. Henderson reviews the anatomy of the knee joint and describes incisions for operating upon pathological conditions of the joint.

Dr. William Mayo illustrates with six cases various splenic syndromes.

Dr. Bowing advocates the use of radium and X-ray in treating Hodgkin's disease.

Dr. Adson has a very comprehensive article on the treatment of brain tumors.

The development of thoracic surgery is described by Dr. Lockwood.

Dr. Brodus reports a series of sixty-three cases of epithelioma of the ear.

Drs. Judd, H. C. Bumpus, Jr., Albert J. Scholl, Jr., W. I. Lillie, New, Hedbloom, Masson, Horgan, F. C. Mann, Meyerding and W. E. Sistrunk are other contributors.

R. F. Seidensticker.

PRACTICAL MEDICINE SERIES, 1921, VOL. IV, PEDIATRICS AND ORTHOPEDIC SURGERY.

PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D. Series 1921, Vol. IV, Pediatrics, edited by Isaac A. Abt, M. D., with the collaboration of Johanna Heumann, M. D., Orthopedic Surgery, edited by Edwin W. Ryerson, M. D., with the collaboration of Robert O. Ritter, M. D. Chicago, The Year Book Publishers. 306 pages. 12mo. Cloth, $1.75.

As usual, the first part of the volume is devoted to pediatrics, under the editorship of Dr. Isaac A. Abt of Chicago, and the second part to orthopedic surgery, under the editorship of Dr. Edwin W. Ryerson of the same city. It would seem that in this issue rather a larger section than in former years is occupied by orthopedics. Quite naturally in a small handbook every article appearing in a given year cannot be considered, but the editors show commendable judgment in their selection of material. Further, the abstracts are both brief and clear, and the succinct editorial comment in the form of footnotes is particularly welcome and valuable, in view of the recognized standing of the editors in their respective specialties.

This system of year books is now well known to the medical profession, well recognized and firmly established.

W. H. Donnelly.

THE LIFE OF JACOB HENLE.

THE LIFE OF JACOB HENLE. By Victor Robinson, M. D. New York, Medical Life Co., 1921. 117 pages. 8vo. Bound in boards, $3.00.

Some ten years ago Dr. Robinson presented to the profession a book on historic medicine under the title of "Pathfinders in Medicine." At that time the writer complimented the doctor for the manner in which he presented the facts relating to the subject matter under consideration.

A part of that letter would not be out of place at the present time:

"Your motto must have been light and truth. The work is without question one of the best, if not the best of its kind yet produced in this country, and will in the future, I feel certain, take its place with such books as John W. Draper's "Intellectual Development of Europe" and with Andrew D. White's "Warfare of Science with Theology."

This with equal truth will apply to his book on Jacob Henle. The first twenty-five pages are taken up with the boyhood days of Henle; his birth, brothers and sisters, religion, first love, and as a medical student. All this is written in a manner that will hold you: the language is so true to nature that it will take you back, unconsciously, to the days when it was your pleasure to enjoy these comforts of home, as the book informs us Henle was inclined to fall in love and that the smiles of young ladies had a certain fascination for him. It cannot be said that he was at all times successful, but the old saying, "Show me a true lover and you will have before you an ardent student."

Music was his recreation, and, being an artist of more than ordinary talent, we have before us a picture of our future anatomist.

Having passed his State examination, he entered upon his life work. In the early '30s he associated himself with Johannes Muller, Professor of Anatomy at the University of Berlin. Here Muller founded his epoch-making archives of anatomy and physiology, with Henle as his assistant, at the Anatomical Museum. Contributing to the archives and work at the museum occupied his time until 1835, when one of those conditions that will happen in Germany took place, and Henle found himself in prison. Through intercession of Humboldt he was liberated.

In 1840 he received an offer of a professorship in Zurich, which he accepted. At Zurich, in connection with Carl Pfeufer, he founded the School of Rational Medicine, together with the *Journal of Rational Medicine*. Here also he completed his Handbook of General Anatomy.

In 1844 he became a member of the Heidelberg faculty. Here he remained until 1856, when he accepted a call from Gottingen.

His jubilee in 1882, being his fiftieth anniversary from the date of his graduation, was celebrated in Prussia, many of the most distinguished scientists of Germany taking part, he having been a co-worker with many whose names sound familiar upon the ears of the old doctors in this country—Wohler, Schwann, Kolliker and Virchow.

It makes one feel, in reading this book of 117 pages, that he is making a return to his student days and enjoying that which in those days was looked upon as hard work.

His contributions to medical science take up anatomy, pathology and histology. The list is too long to be reproduced in an article of this kind, but it indicates the constant work and close application of one who was in love with his chosen profession.

The name of Henle will remain as long as anatomy forms a part of our medical studies. He lived to benefit others. May his devotion to the study of our art be an incentive to all of us.

Dr. Robinson has written a book that may be recommended to every student of our art, knowing that they will receive instruction and pleasure from its reading, and a just estimate of one who devoted his life to the healing art.

Dr. Henle died May 13th, 1885.

William Schroeder.

RINGWORM AND ITS SUCCESSFUL TREATMENT.

RINGWORM AND ITS SUCCESSFUL TREATMENT. By John P. Turner, M. D. Phila., F. A. Davis Co., 1921. 62 pages, 8 illustrations. 12mo. Cloth, $1.00.

This is a very small book which can be read in about half an hour, telling briefly the pathology and diagnosis of ringworm.

Then, just as tersely, the author puts down his method of treating ringworm of both body and scalp, which is an extremely active treatment.

As to its efficacy, Dr. Walter S. Cornell, Director, Medical Inspection of Public Schools in Philadelphia, has written a testimonial in the introduction, stating that this method has given absolute cure in an unusually short period of time in about eighty cases occurring in his schools.

The author has used this method for ten years with very gratifying results.

E. A. G.

CLINICAL DIAGNOSIS.

CLINICAL DIAGNOSIS. A Textbook of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By Charles Phillips Emerson, A. B., M. D. Fifth Edition, entirely rewritten and reset. Phila. and London, J. B. Lippincott Company, 1921. 726 pages, illustrated, plates. 8vo. Cloth, $7.50.

This edition is really a new work. It has been ten years since the last edition appeared, and the author has found it necessary to rewrite the volume and to add several new sections, among them, those on serology, bacteriology, chemistry of the blood and of the spinal fluid.

The author emphasizes the importance of close association of the laboratory and ward, and regrets the tendency of the clinician who entrusts his laboratory work entirely to others.

The entire volume is exceptionally well written and beautifully illustrated. The chapter on the blood takes up the methods for chemical analysis. One cannot help but regret that Folin's excellent "System of Blood Analysis" has not been included here.

The chapter on sputum is especially complete.

Throughout the text there has been careful elimination of obsolete material and the work merits commendation for its completeness.

Henry M. Feinblatt.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

PUBLIC HEALTH SURVEYS. What They Are; How to Make Them; How to Use Them. By Murray P. Horwood, M. S., Ph.D., Instructor, Department of Biology and Public Health, Massachusetts Institute of Technology. New York, John Wiley & Sons. Inc., 1921. 403 pages, illustrated. 12mo. Cloth, $4.50.

A MANUAL OF SELECTED BIOCHEMICAL METHODS, as Applied to Urine, Blood and Gastric Analysis. By Frank P. Underhill, Ph.D., Professor of Pharmacology and Toxicology, School of Medicine, Yale University. New York, John Wiley & Sons. Inc., 1921. 232 pages. 8vo. Cloth, $3.00.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By Philip B. Hawk. M. S., Ph.D., Professor of Physiological Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Seventh Edition, revised. Philadelphia, P. Blakiston's Son & Co., 1921. 675 pages. illustrated. 8vo. Cloth, $5.00.

BIOCHEMIC DRUG ASSAY METHODS, with Special Reference to the Standardization of Drugs. By Paul S. Pittinger, Ph.G., Ph.C., Phar.D. Edited by F. E. Stewart, M. D., Ph.G. Philadelphia, P. Blakiston's Son & Co., 1914. 158 pages, illustrated. 12mo. Cloth, $2.00.

HUMAN EFFICIENCY AND LEVELS OF INTELLIGENCE. By Henry Herbert Goddard. Princeton, Princeton University Press, 1920. 128 pages. 12mo. Cloth, $1.50.

THE DEFECTIVE DELINQUENT AND INSANE. The Relation of Focal Infections to Their Causation, Treatment and Prevention. By Henry A. Cotton, M. D. Princeton, Princeton University Press, 1921. 201 pages, illustrated. 8vo. Cloth, $3.00.

ATLAS DER SYPHILIS. Von Professor Leo v. Zumbusch. Leipzig. F. C. W. Vogel, 1922. 31 colored plates. 4to. Cloth, Mk. 120.

TASCHENBUCH DER KNOCHEN — UND GELENKTUBERKULOSE (CHIRURGISCHE TUBERKULOSE). Von Dr. H. Schwermann. Leipzig, Curt Kabitzsch, 1920. 150 pages. 12mo. Paper, Mk. 20.

PRACTICAL MEDICINE SERIES. Comprising eight volumes on the year's progress in medicine and surgery. Under the General Editorial Charge of Charles L. Mix, A. M., M. D. Series 1921, Vol. VI, Pharmacology and Therapeutics, edited by Bernard Fantus, M. S., M. D. Preventive Medicine, edited by Wm. A. Evans, M. D.. D. P. H., with the collaboration of G. Koehler, M. D. Chicago, The Year Book Publishers. 386 pages, illustrated, plates. 12mo. Cloth, $1.75.

ABDOMINAL PAIN. By. Prof. Norbert Ortner. Authorized translation by William A. Brams, M. D., and Dr. Alfred P. Lugar. New York, Rebman Company, 1922. 362 pages. 8vo.

WIEDERHERSTELLUNGS-CHIRURGIE. Von Prof. Dr. Erich Lexer. Leipzig, Johann A. Barth, 1920. 362 pages, with 798 illustrations. 8vo. Paper, Mk. 60; Bound, Mk. 80.

DIFFERENTIAL-DIAGNOSTIK DER INNEREN KRANKHEITEN. Von Dr. Georg Kuhnemann. 6 u. 7 Auflage. Leipzig, Johann A. Barth, 1921. 242 pages. 8vo. Cloth, Mk. 30.

TUBERKULOSE-BIBLIOTHEK. Herausgegeben von Prof. Dr. Lydia Rabinowitsch. Leipzig, Johann A. Barth, 1921-1922. 8vo.

- Nr. 1. Zum Tuberkulose-Gesetz. Von Prof. Dr. Mollers et al. 1921. Paper, Mk. 8.
- Nr. 2. Die Lungentuberkulose im Rontgenbilde. Von Dr. Max Cohn. 1921. Paper, Mk. 12.
- Nr. 3. Kritische Wertung des Friedmann-Mittles. Von Drs. H. Ulrici, H. Grass und S. Meyer. 1921. Paper, Mk. 16.
- Nr. 4. Die Rontgenstrahlen im Kampfe gegen die Tuberkulose. Von Dr. Manfred Fraenkel. 1921. Paper, Mk. 6.
- Nr. 5. Die Heilbedingungen fur die Tuberkulose im Hochebirgsklima. Von Dr. B. K. Voigt. 1921. Paper, Mk. 15.
- Nr. 6. Ueber Tuberkulose im Mittelstand. Von Dr. Carl Breul. 1922. Paper, Mk. 20.

PSYCHOANALYSIS: ITS THEORIES AND PRACTICAL APPLICATION. By A. A. Brill, Ph.B., M. D. Third Edition, thoroughly revised. Phila. and London, W. B. Saunders Co., 1922. 468 pages. 8vo. Cloth, $5.00.

INFANT FEEDING. By Clifford G. Grulee, A. M., M. D., LL.D. Fourth Edition, thoroughly revised. Phila. and London, W. B. Saunders Co., 1922. 397 pages, illustrated. 8vo. Cloth, $4.50.

NEOPLASTIC DISEASES; A TREATISE ON TUMORS. By James Ewing, A. M., M. D., Sc.D. Second Edition, revised and enlarged. Phila. and London, W. B. Saunders Co., 1922. 1054 pages, with 514 illustrations. 8vo. Cloth, $12.00.

CLINICAL ELECTROCARDIOGRAPHY. By Frederick A. Willius, B. S., M. D., M. S. Phila. and London. W. B. Saunders Co., 1922. 188 pages, with 185 illustrations. 8vo. Cloth, $5.00.

PAPERS FROM THE MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH AND THE MEDICAL SCHOOL. I, 1915-1920. Phila. and London, W. B. Saunders Co., 1921. 659 pages, illustrated. 8vo. Cloth, $10.00.

LONG ISLAND
MEDICAL JOURNAL

VOL. XVI APRIL, 1922 No. 4

Consideration or Toleration in the First Stage of Labor.*

Eliot Bishop, M. D.
Brooklyn, New York.

THE *title* of this paper is suggested by the obvious attitude of hospital authorities, practitioners, and a surprising number of specialists in obstetrics, as evidenced by the textbooks; in fact, by everyone except the patient and her immediate family.

The *subject-matter*—treatment in the first stage of labor—had been discussed in some casual conversations with your secretary, and to my consternation he asked me to discuss this with you to-night. Aside from one rather radical suggestion as to prophylaxis of mechanical trouble, it is not a dramatic recital of a rescue party, but simply principles governing the conduct of the period of labor in which it has been taught the patient must shift for herself.

You may feel that the subject is so simple that it is a waste of time to discuss, or listen to it, and the attitude is borne out by the meagre space given to it in our standard textbooks, and to substantiate this statement, I shall quote from them with their ideas of normal first stage, and its treatment. Some of these quotations may seem irrelevant, but I will ask you to bear with me, until I shall discuss a definite pathological entity that develops and may be partly managed in the first stage of labor.

De Lee, in his monumental work, has the proper general principle of "a watchful expectancy," and the only suggestion as to medication in a normal case is "early in the first stage, morphine and scopolamine may be given, but not near or during the second stage": but late in this chapter he shows his feeling that "it would be better if women could dispense with narcotics during labor, and particularly during the first stage. But it is our duty to relieve pain, and in many cases one will feel it needful to give morphine, choral or nitrous oxide and oxygen to reduce the sufferings of a prolonged first stage." For weak first stage pain he advocates sleep, to be obtained by morphine or sodium bromide.

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*Read at a meeting of the Obstetrical Society of Boston, November 22.

"Twilight sleep" he reviews fairly thoroughly, though not favorably, criticizing it for delay in labor, need for forceps, and disturbance of asepsis, necessitating surgical delivery. In light of his recent utterances, can he yet criticize on this basis?

He describes two pathological states: Tetanus Uteri (Strictura Uteri) with a clamping down of the uterus upon the foetus—usually with a ring about the child's neck; and spasm of the cervix (Strictura Cervicis) and the treatment of each is practically the same, except the latter may be met by incision.

Acknowledging that all the causes of persistent occipito-posterior positions are not known, he tells us that the child soon becomes moulded to the abnormal position, the uterus adapts itself to the child, and the condition is less easily corrected as labor goes on.

De Normandie, in his "Case Histories in Obstetrics," gives us little inkling of his practice in the first stage of labor, except to say that "a small dose of morphine or, in some cases, chloral hydrate in the early stage of a normal labor, and the use of gas-oxygen later gives a very satisfactory analgesic, which in no way endangers the mother or child."

Edgar has no recent edition of his textbook, but in the last one, under the single page devoted to the management of the first stage of labor, his suggestions are mostly hygienic and have no specific therapy.

Under the treatment of primary occipito-posterior positions, he says, "The preventive treatment . . . promises very little. In the high and medium cases, internal rotation by grasping the head or shoulders is the favorite treatment with many authors, but I have been more successful with other methods: . . . successfully to carry out the anterior rotation, the hand must be used not only to rotate the head, else it will immediately return to its malposition, but it must be passed up to rotate the shoulders as well.

"This grasping of the foetal body, I have found, disturbs the circulatory equilibrium of the foetus, favors intra-uterine asphyxia, and, unless the foetus is immediately extracted, intra-uterine death ensues." He finds the low cases the more common, and these he rotates with the forceps—actuated by the same principles of the Scanzoni maneuver in the high and medium cases.

In cervical dystocia he differentiates several types of pathology, but uses little medication or patience, and resorts early to manual or hydro-static dilatation.

He, however, brings out what he considers a heresy, to which the writer will subscribe; in primaparae age, *per se* does not mean first stage dystocia.

Cragin, in discussing the management of the normal first stage, has much good advice for the doctor, but under therapy says only, "During a prolonged first stage, if the patient becomes very tired and nervous, and progress seems to be interrupted, nothing appears to be so effective as to give the patient some rest by the administration of a nerve sedative like choral, or an opiate."

Under the treatment of primary uterine inertia, and also rigid cervix, he tells us that morphine or chloral will often greatly improve the conditions. If the child is suffering, as evidenced by the foetal heart, he advises the application of a bag, if the internal os is yet present, but if it is not, he advises manual dilatation.

He treats persistent occipito-posterior cases, if seen before full dilatation, by two fingers in the cervix, with attempts at rotation. His next sentence starts suggesively, "If his method fails," etc. We feel that even with him, one of the most dexterous operators the world has seen, this procedure must have frequently failed.

With or after full dilatation he rotates the head 90 degrees and applies the posterior blade of the forceps. In this maneuver he must have more or less often failed, for he says, "In certain cases, however, when it is impossible to rotate the head manually, the double application (Scanzoni) of the forceps may be necessary."

In discussing "Twilight Sleep," Cragin reaches the following conclusions: It is contra-indicated in cases of primary uterine inertia, as it tends to check the labor. It is of little value in very short labors, as there is insufficient time for the drugs to act. It is inapplicable as a routine procedure in a large teaching institution, as the staff requirements are too great; nor is it suitable for the general practitioner in a private house. . . . The danger to the mother from the use of the drugs is not great. There is always a certain amount of danger to the child, and for this reason the foetal heart should be listened to every fifteen minutes. This means that the obstetrician, or his trained assistant, must be in constant attendance during all this time. The advantages of the method in the majority of cases are not sufficient to counterbalance the disadvantages.

Nitrous oxide, at the time of this edition, he looked upon favorably, but with not enough experience to discuss, so we do not know if he used it in the first stage, but his associate, George H. Ryder, in the June (1917) number of the *American Journal of Obstetrics* states, in his experience with nitrous oxide, that gas was given to each patient as soon as she desired it. This usually happened well along in the first stage, the early first stage pains not giving enough distress to cause the patient to ask for relief. In his series of 135 cases he gives no other data on first stage medication.

Hirst feels that nitrous oxide may be employed during a considerable portion of the first stage, but the best anesthetic during the first stage of labor is morphine and scopolamine, but he does not carry it to an extreme degree or into the second stage. He gives morphine (gr. 1/6) and scopolamine (gr. 1/200) when the pain becomes severe enough for the patient to demand relief. The scopolamine is repeated one or, at most, twice in the the first stages of labor, in doses of gr. 1/400.

For inertia uteri, depending upon circumstances, an analgesic or a stimulant is employed—morphine and scopolamine for the former purpose, while for the latter, insertion of *bougies* or *bags,* and after the cervix is the size of a silver dollar, the temporary application of *forceps* with *intermittent traction!* He tells us, "Inertia uteri, so profound as to demand the somewhat radical procedure just described is fortunately rare."

Rigidity of the cervix yields at length to the steady pressure of the presenting part. If interference is demanded, the bag is efficient.

For occipito-posterior positions in the first stage, Hirst advises simply posture to favor flexion.

The "Manual of Midwifery," by Jellett and Medill of Dublin, says, "The obstetrician's duties during the first stage of labor are not many." There is given, in this work of nearly 1,200 pages, a page and a half on the management of the first stage of normal labor—cautioning against frequent examinations, and advising the use of the upright position, and a binder to favor engagement and descent. In the pathology of labor, under the treatment of primary uterine inertia, pituitrin, uterine massage, hot douches, stimulating food, dilatation and incision are advised.

In considering spasmodic and irregular uterine contraction, chloral and morphine are advised for rest. They consider spasmodic contractions of the cervix an entity, but admit that, with the less frequent vaginal examinations of the present day, it is much more of a rarity, and feel that most cases will yield to time, the only palliative agent being chloral, and with dilatation, or incision, a last resort.

The treatment of posterior position is given little space, being devoted to methods of rotation (internal and external) of only historic interest. Anaesthesia is advised, only in the second stages. "Twilight Sleep" is discussed fairly accurately, but the disadvantages given are that it requires a nursing home (hospital) and the obstetrician or a skilled assistant must be in constant attendance and the foetal prognosis is less favorable.

In "Midwifery," edited by Comyn Berkeley of London, the management of the first stage of normal labor is given a few short paragraphs of a negative character. Manual rotation is referred to as "one of the most pleasing operations in midwifery, but the technic is very incomplete, and apparently limited to the second stage." He substitutes for primary inertia, the phrase, "sluggish uterus," and for secondary inertia, "exhausted uterus"—much more descriptive terms—and in the treatment of the former, stripping of the membranes when stimulation is needed, and chloral and morphine when rest is needed. For the colicy uterus he finds that morphine and scopolamine often will relieve the condition, and sometimes strong, but ofttimes almost painless contractions will ensue. For spasmodic rigidity of the cervix he advises opium, chloral or chloroform.

An article by Dr. Edward P. Davis of Philadelphia, read before the American Gynecological Society at the 1920 meeting, discussed with that writer's usual charm, when and how the mother needs help in her first stage; but I agree with one of the discussors, Wakefield of San Francisco, when he calls discouraging Davis's relegation of scopolamine to the background, though I don't follow Wakefield so far as to consider it must be used as a routine. Dr. Polak's discussion of the article was the most rational, but I want to emphasize Dr. Pomeroy's contention that labor is not a standard procedure, therefore its therapy cannot be standardized. I urge you all to read that article, not overlooking the remarks of the eminent discussors.

The voluminous and, in general, comprehensive work of Williams has no suggestions for the treatment of an average patient in the first stage of a normal labor.

In prolonged labor he favors, in general, the use of hypnotics, such as morphine (gr. 1/4) with atrophine (gr. 1/150) or a rectal injection of chloral hydrate (grs. xxx). In secondary inertia he advises either an hypnotic or quinine (grs. xv).

In condemning pituitrin and ergot for the first stage, he is in agreement with practically everyone.

He feels, as to pathology, that abnormalities in the contractions of the uterus are usually associated with imperfect dilatation of the cervix. Williams also describes tetanic contractions of the uteri in the first stage and associates them with what has been called contraction of Bandl's ring, the latter condition as an entity, he feels inclined to agree with Veit in denying. Of this more anon.

As to occipito-posterior positions, Williams takes a surprisingly optimistic view—not considering "it advisable to attempt to convert them into other positions during the course of labor, except when the forceps is applied."

Gas-oxygen, Williams limits to the second stage, and "Twilight Sleep," he feels, will fall into disusage, or, at least, its use will be restricted to a small proup of neurotic patients—this largely because he feels that as a procedure it cannot produce satisfactory results to more than three out of four patients.

His detailed objections to this method are about like Cragin's, and others who disapprove on not well-established grounds.

The most painstaking study of labors with occipito-posterior positions was published in June, 1916, in the Johns Hopkins Bulletin, by E. D. Plass of that institution. With the greatest detail he has reviewed these cases, which he, with his chief, "views with perfect equanimity." However, he has confused the types which produced no problem and those which, experience has shown most everyone, produced most of the disasters of mismanagement in the hands of the average practitioner.

In surveying the standard textbooks I have arranged my observations book by book, rather than in what would seem to be the more logical manner of each subject by itself, but I have done this for the purpose of emphasizing how little attention has been given them in these works. In current literature, however, I have uncovered more on the therapeutics of the first stage of labor, and I shall attempt to arrange it in relation to indication, though frequently these indications, or their pathology, so run together that there develops an entity that is so overwhelming in its importance that this paper cannot be rounded out without its discussion, and to it I shall return later.

With pain as the indication, three inhalation drugs stand out—chloroform, ether, nitrous oxide-oxygen.

In the literature which I have covered the only author who advises chloroform in the first stage is I. L. Hill of New York, in an article in the *American Journal of Obstetrics* for February, 1918, and I feel that he stands alone and that most obstetricians consider his position indefensible. Nowhere did I find anyone advocating ether in the first stage.

An article by Charles E. Turner of Columbus, Ohio, in the *American Journal of Obstetrics* for December, 1919, on "The Advantageousness of Nitrous Oxide in Labor," tells us that he begins in primaparae in the first stage, at the beginning of labor, and in multiparae a little before the completion of that stage, and on comparing it to "Twilight Sleep" he says its advantages are: 1. A shorter second stage of labor, which we will grant; 2. A relaxation of the mother's soft parts, minimizing the danger of perineal tear, the advantages of which I doubt; 3. A total absence of restlessness, which is true, and rigidity, which does not always ensue; 4. The rapid return to normal state—a debatable condition.

In continuing his discussion, he admits that first deliveries, under any system of management, are nerve racking, and does consider morphine the ideal sedative during the first stage, not giving it late in this stage or early in the second stage, making the curious statement, "I instruct the *nurse* to give morphine six hours before the expected delivery"! He considers that morphine depresses the sensory nerves and often causes a delay of labor in the beginning of the case, and, when pains are very severe, he feels it is better to depend upon an occasional inhalation of gas-oxygen, than morphine. As far as I have read, he is the only author who apparently gives gas any considerable use in the first stage.

Nitrous oxide gas-oxygen in the second stage of labor has been received on pretty firm footing, but as that is beyond the limits of my paper I will not discuss it, except to say that, following the use of scopolamine in the first stage, it is not liable to be of so much value. I cannot accept the proposition, however, to discard its use entirely, because some scopolamine patients, even those deeply under the drug, are found at least to keep more quiet, and thus better maintain asepsis; many of them even go so far as to use the gas voluntarily as an analgesic, and to bear down. Some, however, seem to become more excited, and, of course, with them it must be discarded. Two enthusiastic users of nitrous oxide, Dr. Frank W. Lynch of Chicago, the obstetrician, and Dr. Raymond Coburn of New York, the anaesthetist, each apparently stimulated to his enthusiasm as a reaction from the "twilight sleep furor," starts the gas as soon as the pains are severe enough to occasion complaint.

Does this mean that they can, or do, carry such analgesic through the many hours of a painful first stage in a primapara? I doubt it, when Lynch tells us that his longest time was six hours.

Moreover, he informs us that, after experience is acquired, the cost will run from $4.00 to $5.00 per hour. In relation to the overwhelming majority of patients, may I not ask the practical question, Who is to bear such cost, if over many hours?

C. H. Davis of Chicago, in his article in the *American Journal of Obstetrics* for October, 1917, in a comparative study of chloroform, ether and nitrous-oxide, makes no note of the use of any of these in the first stage, but does specify that an analgesic, needed early in labor, should be an opiate, either alone or with chloral or scopolamine.

Danforth of Evanston, in the same number of the same Journal, discussing nitrous-oxide analgesia, apparently does not use it in the first stage, and even limits its use to a period not to exceed three hours—therefore, only in the second stage.

May I dispose of nitrous-oxide-oxygen by saying that it has no place in the first stage of labor, except late in that stage with multiparae.

In the October (1918) number of the *American Journal of Obstetrics,* Livingston of Oxnard, California, details his experience with 275 cases of scopolamine-morphine amnesia in labor. These labors ran from ten hours to forty-six hours, and the average time from the first injection to delivery was seventeen hours; the longest was twenty-six hours. It is his experience that the average time of labor has not been lengthened. He concludes that: "The first stage in primaparae was certainly shortened; the duration of the second stage, entirely unassisted, would probably be prolonged. The third stage seemed to be uninfluenced; there were no cases of post-partum hemorrhage; there was no maternal mortality; there were no cases of insanity; forceps were used 10.5% (14% in the first 65 cases, 7% in the last 165 cases, three times in the last 65), the number of high and mid-plane applications of forceps is reduced in twilight sleep; 17% of all babies did not cry at once at birth; there was no immediate mortality; one child was stillborn; one child died at eight days."

While this is a splendid series, he even explains these two deaths as not related to the medication. He enumerates the disadvantages as: "1. Exacting requirements as to surroundings, which means expense of personnel, and environment; 2. Sharp individualism in dosage, which requires constant expert supervision; 3. Lack of suitability for cases in which delivery is expected within a couple of hours."

While I cannot agree with his theories as to some of the advantages to mother and child, I will accept his principles that the cervix dilates with less trauma, and in the first labors more rapidly, and also as to relatively infrequent application of high forceps.

Another Californian, W. B. Francis Wakefield, to whom I have referred before, published an article on painless childbirth in the same magazine for May, 1919. I will not burden you with statistics by quoting his figures, but, roughly speaking, the average report on still births seems to be about 5%, Williams of Johns Hopkins reporting 7%; Kronig of Freiberg reported 5,000 cases of scopolamine anesthesia with 1.7% still births; Polak of Brooklyn, in 550 cases less than 1%; Wakefield's 400 cases corresponds very closely to Kronig's.

In January, 1915, when "Twilight Sleep" was being first tried in America, R. M. Beach reported 1,000 cases conducted by 25 observers in a paper before the Medical Society of the County of Kings, and his paper was published later that year in the *American Journal of Obstetrics*. He had 19 still births, and his conclusions in regard to it in general are that it will, in about 85%, give a practically painless labor; that there is no relation to insanity, and, indeed, it is particularly indicated in the psychically unfit woman, as well as in long, painful, first-stage labors, in cardiac cases, etc. . . . While I feel he was over-enthusiastic in his conclusions, particularly as to "better babies," they were painstakingly arrived at, and, aside from mildly criticizing his article for following the German idea of fitting patients to a system, it gives us an excellent picture of the Freiberg technic.

In the January (1919) number of the *American Journal of Obstetrics,* Henry Schwarz of St. Louis has given the sanest survey of the field of painless childbirth. He shows he has not been carried away by any one procedure, but utilizes any agent that he may have at his command, which is best adapted to his individual problem, and arrives at the crux of the matter by specifying that patients should be delivered under ideal conditions, which mean suitable surroundings, good help in the way of assistants and nurses, and that the obstetrician or a competent assistant remain with the parturient woman from the time she goes into labor till an hour or two after delivery.

In the first stage he finds morphine (or narcophine)-scopolamine semi-narcosis, the most reliable agent, and with a great deal of thought he has developed a modification of the Freiberg technic, for the details of which I refer you to his admirable paper.

In most cases in which the first stage of labor is protracted for many hours, and even a day or two, he "knows of no method by which this class of women, and the members of the family, can be kept comfortable and under perfect control during these long and painful hours of the first stage, which can be at all compared with twilight sleep. . . . It is unreasonable to say that the method cannot be employed successfully by the general practitioner; for if the practitioner is a qualified obstetrician he can use this method as easily and as successfully as the specialist. If he is not a qualified obstetrician, no method, and no parturient woman is safe in his hands."

While the subject of pain has brought out a good deal of discussion, due to the stimulus of the work of Kronig and Gauss, there has been a paucity of discussion and certainly little advance in our treatment of other indications in the first stage.

Under the subject of "Rigidity of the Cervix During Labor," Coinaud, in *Journal de Medicine et de Chirugie Practique*" for 1919, on page 567, states that oedema and secondary rigidity of the cervix are seen, among other conditions, in premature rupture of the membranes, in protracted labor beyond a certain limit, and in annular contraction of the uterus; after the persistence of oedema for a certain period the cervix becomes a hard, rigid, and inextensible ring. Further dilatation is now impossible, and the cervix tears, and in rarer cases comes away "en masse"; hemorrhage, with tear of the lower section of the uterus, with considerable risk of infection, he pictures as a possible sequence.

Personally I feel that such a catastrophe is so rare as to be negligible.

His management is expectant, though he allows the rubber bag, if haste is indicated, with high forceps when dilatation is complete.

If there is no prospect of delivery by natural passages, and conditions are favorable, abdominal section is indicated with hysterectomy if necessary.

Whether or not we agree with Coinaud in his pathology, we all know, obstetricians and general practitioners, patient and family, that slow first stages are facts. They may come in young or old; the physically fit or unfit; in spontaneous onset, or after induction, as evidenced by Faukauld, in his study of the induction of labor by the use of bougies, in the *American Journal of Obstetrics* for April, 1919, when he says that the conduct of induced labor, if tedious, requires the same rules to be applied as to other forms of labor, "in such labors when pains have reached their crest, and while they are still vigorous, a dose of morphine adjusted to the patient, not enough to stop labor, but sufficient to relax the cervix, is of greatest value."

If he does not succeed by the initial dose of morphine, he continues to inject minute doses of strychnine combined with codeine (gr. ¼-⅛) every three or four hours.

For the so-called rigid cervix, hydro-static bags have also been used, but no one speaks of their use more authoritatively than Dr. Franklin Dorman in the June, 1921 issue of the *American Journal of Obstetrics and Gynecology*. In his first five hundred private cases he used them for that indication but three times, and in the second five hundred cases but once. In their use at the Woman's Hospital for dry labor, there was a definite increase in maternal mortality, and two and one-half times the foetal mortality, compared to all cases of dry labor. He considers the introduction of a bag an operative procedure of serious possibilities. As a means of completing the first stage, it is more unreliable, for he has more than once seen the cervix, after dilatation to four fingers, close down to one finger in a few hours after expulsion of the bag.

A couple of years earlier, Edward T. Hull, writing on the same subject, in the March (1919) number of the *American Journal of Obstetrics,* found that bags frequently failed in dilating the cervix and expecting labor to progress.

Before discussion of so-called rigid cervix, and slow labor, let me pass on to another subject, which, I feel sure, the more conservative of you will feel has no place in any treatment in the first stage, and that is occipito-posterior position. Little of value has been brought out of late in this matter. The work of Plass of Johns Hopkins I have referred to when I discussed Williams' textbook.

In the *American Journal of Obstetrics* for December, 1918, Arthur H. Bill of Cleveland, in an article of "Forceps Rotation of the Head in Persistent Occipito-Posterior Positions," properly emphasizes the importance of such positions in obstetric pathology by saying, "These cases furnish the bulk of the obstacles confronting the physician in general practice, as well as the obstetrician, and bungling work in the use of forceps in such cases has resulted disastrously to many babies, as well as mothers."

He feels that in the majority of cases of occipito-posterior position, the head will rotate spontaneously during the course of labor, but in many of the cases in which such rotation occurs it takes place only after several additional hours of excessive labor pains, which certainly can do the mother no good, and can tend only to have an injurious effect upon the child, because of the unnecessary pressure upon its head.

On the rationale of first correcting the abnormality of position, and then doing extraction, he bases a procedure which, regardless of its nicety of mechanics, he utilizes only in the *second* stage.

From all these extracts and quotations, with a number of which you may infer I disagree, from what seems a hodge-podge of apparently unrelated statements, I will try to emerge with a rationale of treatment in the first stage of labor. At the risk of seeming didactic, or even illogical, and possibly too positive, I am going to use practically no statistics. They are handy, if one wishes to seem scientific, they are frequently treacherous, often misleading, and always boring. There are, first, a few premises to be granted—the primapara should be taken care of in proper surroundings—a hospital maternity service, well organized, with plenty of help and equipment, and by constant obstetric attendance; hers is a surgical operation, at any moment becoming major, and the operation begins when labor begins. The tested multipara, who has had scientific ante-partum care and who has no demonstrable pathology, may be taken care of in her own home.

Her indications for treatment in the first stage are so simple that I will discuss them first.

Usually pain is not so severe in the first stage, and usually the duration so short that little needs or should be done. If she can be seen early a hypodermic of morphine (gr. 1/6)) and scopolamine (gr. 1/150) usually will give her rest and relief until the end of the first stage, when an inhalation analgesic may be used. If an hour after the hypodermic, dilatation is not progressing rapidly, and the patient is in terror of her pains, a second dose of scopolamine (gr. 1/300-gr. 1/200) may be given, and possibly the patient may be passed on into twilight by this, with or without subsequent doses of scopolamine,

True rigidity of the cervix, a rare condition, may occur in the multiparae from scar tissues of a former severe laceration, or an ill-advised amputation, or poorly done repair of the cervix; this may have to be met by even the radical procedure of abdominal section.

Dry Labor in the multiparae is usually a fast labor, and *slow labor* is frequently a blessing in decreasing the chance of cervical laceration, and also post-partum hemorrhage. Neither of these needs treatment *per se.*

Occipito-posterior positions so little influence multiparous labors that they present, in only the rarest instances, any indication for treatment in the first stage. If dystocia from such a cause occurs, it may be met as in nullipara.

Such pathological conditions as nephritis, toxemia, tuberculosis, cardiac lesions, influenza and other infectious diseases have been, in the last few years, discussed so well, and practical standards of treatment have been arranged; therefore intentionally I will omit them from consideration, whether in multipara or nullipara.

Our greatest problem in obstetrics is to bring to primaparae live babies, and to convert the mothers into "undamaged, unterrified and competent multiparae."

Having placed the primapara in suitable surroundings, and with proper help and expert supervision, what can we do for her in the first stage? At times she will go through the first stage like a multipara and the indications are the same and are to be met the same. One of the most rapid labors I knew of was in a primapara, who had a premature rupture of the membranes, a poorly engaged vertex, in a posterior position.

Until we know the cause of labor, the definite onset will frequently have to be considered, and discussed vaguely with patients and among ourselves. With onset of labor considered vaguely, such conditions as "primary uterine inertia," "indilatable cervix" and "rigid cervix" must be ill-defined and confusing.

Among a few of us, labor is considered not definitely to have begun as long as the patient can eat her meals and is willing to be up and about. This may seem unscientific, but is a practical starting point. With only the slight pains we so commonly see, strength and vitality may be obtained with food; and rest may be obtained with the bromides or choral, or both, preferably by rectum, with the addition, if necessary, of morphine and scopolamine, all of them to be given in full doses. Frequently have I seen patients in such a state, annoying as it is, for several days, and their mental and physical equilibrium kept up by such simple measures, and assurance that they are not in active labor. Needless to state, no dilatation of the cervix develops, and I wonder if some of our caeserian sections are done with no more indication. These same patients, when strong pains do ensue, often will produce a first stage as rapid as the average multipara. As nearly as it can be defined, this is my picture of "primary uterine inertia" and its treatment.

Some primaparae may show the opposite picture, and develop with a rush a severe, painful labor, and from the standard textbooks what do we gain in the way of help? One or two, as you may remember, taking their lessons from the nitrous-oxide enthusiasts, say that gas *may* be given in the first stage, but in the next breath we are told that three hours is about the limit for it. How common is the primapara whose labor is handled with such expedition? Here our standby must be scopolamine and morphine in doses large enough to produce analgesia, and even amnesia—call it "twilight sleep," or what you will. For details of technic I will refer you, for lack of time, to the articles of Beach of Brooklyn and Schwarz of St. Louis, from which I have quoted. As soon as I feel that the patient is in active labor—evidenced by frequent, regular, hard pains, with no willingness to eat, my own practice is to give her, if the cervical os is no larger than one inch, morphine (gr. 1/6) and scopolamine (gr. 1/150) hypodermically, and at the end of one hour note the general condition, frequency and character of the pains, and her individual reaction to them, the condition of the cervix, and then carefully individualize any further medication, from giving no more to carrying the patient into a complete amnesia.

Morphine has been looked upon with unnecessary fear, I feel, as to oligopnoea in the baby. As an example of toleration, I will give the details in a cardiac case—the obstetric problem, and the indication being irrelevant to this paper.

Mrs. B. at term, with a small baby, and a mitral stenosis, received:

Jan. 18th—	Morphine	Scopolamine
3.25 A. M.	gr. 1/6	gr. 1/150
6.00 A. M.	gr. 1/6	gr. 1/150
8.40 P. M.	gr. 1/8	
Jan. 19th—		
1.30 A. M.	gr. 1/8	gr. 1/200
3.30 A. M.	gr. 1/8	gr. 1/200
6.00 A. M.	gr. 1/8	
8.00 A. M.	gr. 1/8	
11.00 A. M.	gr. 1/8	
1.00 P. M.	gr. 1/8	
4.30 P. M.	gr. 1/8	
6.10 P. M.	gr. 1/8	
9.20 P. M.	gr. 1/6	
9.50 P. M.	gr. 1/6	
10.45 P. M.	general anaesthetic, and supra-pelvic rotation from R. O. P.-L. O. A.	
10.45 P. M.	forceps applied.	
10.47 P. M.	perineotomy.	
10.48 P. M.	forceps off.	
10.49 P. M.	5 lb. 12 oz. girl, no oligopnoea, or cyanosis.	

Total morphine: gr. one and nineteen twenty-fourths, of which one-third of a grain was given within an hour and a half of delivery.

Aside from the cardiac lesion, this case, while briefly referred to for only one purpose, suggests the patient whose condition is the most poorly grasped by even the great teachers, as is shown by their writings; is the most commonly bungled by the amateur; and even too frequently by the expert; the patient whose dystocia is mislaid to "contracted pelvis," "stricture of the cervix," "rigid cervix"; whose prognosis for a subsequent labor is made so grave that she is warned "never to become pregnant again," and then with nature's help she throws the lie in everyone's face, and she has her subsequent labors as rapidly as any multipara.

The most common way that a woman in labor is maltreated is by injudicious interference in the first stage—the most common call that comes to emergency consultants is for contemplated or perpetrated interference in that stage. Such consultations far outnumber the calls to see patients with contracted pelves, and yet compare the space given in these standard textbooks.

Let me give you the clinical picture that we see all too commonly. Its etiology is unknown, except that it has a frequent, though not a necessary connection with oligamnios, or early loss of water. It seems a little more common with elderly primaparae, though I would like to to state that some of the most rapid labors I have seen have been in such subjects.

The pathology is distorted physiology; it shows a slow first stage, the cervix dilating so slowly that it gets the approbrium of rigid cervix, or even undilatable cervix; the occiput is posterior in practically all cases, and the uterus, instead of retracting in the lower segment moulds itself to the baby, and a hand in the uterus shows a ring about the neck, a shelf extending from the uterine wall, at times an inch, and often of the same thickness, and impassable, except under deep anaesthesia.

We will admit that the immediate relief after labor, and the joy of motherhood often will produce amnesia to a painful labor, but the horrible memory of a long first stage of ineffectual nagging pains will never leave some women, and, if complicated with the damage of a too early and poorly terminated labor, must account for many of our one-child families.

Have we not, then, a problem—to lessen their horror and prevent this damage?

In such a first stage, morphine and scopolamine analgesia carried on to a complete twilight is a Godsend, and my previous suggestions as to its use are proper, and if we find our patient is drifting into such a state, increasing the scopolamine will let her drift into oblivion.

If such a patient does not develop any real mechanical dystocia, I contend we have done her or her infant no harm, and to substantiate this statement, from our own experience, I would like to refer in a few moments to the first 800 cases delivered, in 1920, at the Brooklyn Hospital, which were thoroughly reviewed by Dr. Florence Wilson, one of our clinical assistants.

Turning aside from the pain and anguish of a long first stage, what else may be done for such dystocia?

Failure of the cervix to dilate certainly does occur, but I refuse to admit that the pathology is in the cervix; it is failure of the lower uterine segment to properly retract over the foetal head. The patient herself in subsequent labors demonstrates the error of considering the cervix at fault by rapidly dilating that same cervix. It is an unsolved problem of labor to my mind, but I insist it is functional and not anatomical pathology.

Most of the cervices will show some dilatation in twelve hours of real labor. A few, and it is difficult to select the few, may need hydrostatic bags, but please to remember that a man of such wide experience in their use as Franklin Dorman, tells us that after the bag is expelled, the cervix may again contract down. Aside from one point gained in this temporary dilatation, we are not so far along in our problem. Bags form a part of our armamentarium, but are not panaceas for long labors.

As I have said, in most cases there is some dilatation at the end of twelve hours, and the extreme conservatives advise us that, presuming a normal pelvis, all patients will ultimately deliver themselves, and that may be true—but the foetal prognosis gets more and more grave as each succeeding twelve hours go by.

At the end of twelve hours, if the patient shows no signs of delivery in the next few hours, we give her a most careful review—going to the extreme of a general anaesthetic, and passing the whole hand, if necessary, into the uterus to accurately determine the position, and the presence of a retraction ring. Such examination can be made with gentleness and a few moments of deep anesthesia. Most patients, of course, in expert hands, don't need such complete examinations for diagnosis, but how commonly do general practitioners and internes assure us that the position is anterior, when it really is posterior? As I have said before, in rare instances there is slow dilatation with an anterior position, and obviously we have got to continue our expectant line of treatment. However, if at this time, and particularly with scanty or no liquor amni, we find, and almost always do we find a posterior position, the Pomeroy maneuver of 180-degree rotation is indicated. Dr. Ralph H. Pomeroy of Brooklyn brought out this maneuver and its indications about six years ago. While he has discussed it before the New York Obstetrical Society, the Brooklyn Gynecological Society and the Medical Society of the County of Kings, he has given little publicity to it. There was, and yet is, a good deal of objection to it on the ground that it is unnecessary and dangerous. As to the former—when one sees the change in the clinical picture, the patient after the rest of general anaesthesia, instead of frequent, nagging, ineffectual pains and constant backache, and general misery, slides off into a working second stage with progress with each pain that she herself appreciates, one ceases to call it unnecessary. I have seen such a patient "crown" in forty-five minutes, and usually they "bulge" in from two to four hours.

As to its being dangerous, we teach our residents and internes to do this under supervision, as they do appendectomies with the surgeons.

There is an element of risk, as in any surgical procedure. It must be done with gentleness, and deep anaesthesia. The cervix may be torn, but if it is open two and one-half inches, the whole hand can be slowly passed through it. The last one I did was of that size, and demonstrated that I had not torn it by tightening around my wrist after the knuckles had passed by; a loop of cord may prolapse, but it ought not to with one who is accustomed to intra-uterine manipulation. Pomeroy has slid a loop of cord off the neck during this procedure, but, personally, I have not essayed that as yet. However, I do assure myself that the cord is pulsating, and that I have not tightened any loop about the neck. For the technic of this maneuver I will refer you to the charts of Dr. Pomeroy, which he kindly loaned me.

Some factors may prevent one from getting the clinical picture of complete success.

We may not get the 180-degree rotation, and the vertex returns to its former position, for it does not hold in 90 degrees rotation, probably because of this moulding of the uterus to the baby's form, a subject which DeLee seems to have appreciated. This is a complete failure and leaves the patient where she was, except to have given her a rest.

The rotation may have been done successfully, but so late for that particular patient that she cannot develop a second stage, but here we have far from lost, for we have left the vertex in a position for the most propitious application of the forceps. Do we all agree with our Baltimore friends, that we approach the application of forceps in a posterior position with equanimity?

There is one other procedure that may be needed in the first stage in the interests of the child, and it is in conditions in which we fail to get complete dilatation, and we must produce our own second stage. That procedure is hysterotomy, boldly done when it is necessary to terminate labor, and under the proper surroundings it is, to my mind, the only way to attack the cervix not fully dilated. Manual dilatation must be relegated to the background. Manual dilatation has been aptly called "manual laceration."

If we split the cervix front and back, and usually only the former is needed, we invade the area where vessels, nerves and lymphatics are fewest, and therefore much less chance of immediate or remote morbidity. I have seen patients whose condition necessitated postponement of immediate repair, and yet all they subsequently had was a bad-looking, but symptomless, cervix. I will not burden you with the details of technic, but only urge upon you this method of attack rather than manual dilatation.

In closing I want to briefly refer to those 800 labors in 1920 at the Brooklyn Hospital, of whom there were 47 stillborn or died in the hospital. The deaths or still births with any *possible* relation of the choice of delivery were 14, which included—

Five cerebral hemorrhage.
One breech extraction.
Two prolapsed cord.
  a. Two and one-half turns and knotted one-half hitches.
  b. Two turns with short cord.
Three cases with premature separation placenta.
One difficult version on account of fibroid.

Of these labors, almost exactly two-thirds were primaparae, as only primaparae and complicated multiparae are accepted in the general service.

737, or 92.1%, vertex presentations; of these 285, or 35.6%, had forceps application.
131, or 16.3%, had forceps control.
111, or 13.8%, had low forceps.
40, or 5 %, had mid forceps.
3, or .4%, had high forceps.
60, or 7.5%, had Pomeroy rotations.
296, or 37 %, had median perineotomies.
5, or .62%, had post partum hemorrhage.

Of these so-called hemorrhages there were no deaths; one was a secondary post partum hemorrhage on the eighth day. Two were classified as severe and two as moderate, with no apparent effect on the patient.

No patient was considered by the classifier to have primary inertia uteri, or tetanus uteri or, rigid cervix; but two caeserian sections were done for cervical dystocia—one for a previous amputation, and one for a cervix which, after twelve hours of hard labor, would not admit, under an anesthetic, more than one finger, and the post partum examination disclosed a fibroid nodule in the cervix.

It may be noted that there was a high percentage of forceps applications, even for primaparae, but you will also note that only 5% were mid-forceps, and only .4% were high forceps.

Twilight does account for an increase of surgical deliveries, with the head on the pelvic floor; but is this a disadvantage to all patients? We feel it is more than offset by the thorough attempts to care for a patient in a long first stage, and the prevention of occipito-posterior position disasters by early 180-degree rotation.

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Epilepsy and Its Treatment.

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PROBABLY of all neurological conditions there is none more important from a sociological standpoint than epilepsy.

It has been my good fortune in the past two years to treat 136 cases. An accurate record was made of all symptoms, particularly the frequency, duration and severity of the attacks with reference to therapeutic treatment. The sources of the cases were from my service at the U. S. Public Health Service Hospital No. 38 (Polyclinic Hospital), New York, Nerve Clinic. Brooklyn Hospital, Brooklyn, New York, and private cases.

In order to show the influence of different therapeutic agents on the attacks and general condition of the patients I am citing the important features from several case histories.

Case No. 12. A. P., 11 years old. Normal, non-instrumental delivery; teethed, sat up, crawled and walked at usual time. Both parents living and apparently normal. Past history and personal history negative. Entered school at 6; precocious and extremely industrious and studious. First convulsion appeared at age of 8. No attributable cause can be ascertained. At 6 A. M. child gave a yell and mother found him in bed unconscious, frothing at mouth and biting tongue, with a series of tonic and clonic contractions of upper and lower extremities. The attacks lasted 15 minutes, after which the child complained of severe frontal headache and felt exhausted. There were ten similar attacks that day, eight the next, seven the next, three on the fourth day and one of minor character on the fifth day. During this period of illness the patient received hypodermic injections of hyoscine, chloroform inhalations, and colonic irrigations, and in between attacks a bromide mixture. One month later the child was taken to the German Hospital, New York (service of Dr. Jacobi), where he was given a thorough clinical work-up. (X-ray of skull negative, blood and spinal Wasserman's negative.) It was then suggested that, as the child had hypertrophied tonsils, these ought to be removed. Tonsillectomy was performed. A severe hemorrhage followed, as well as a return of the major convulsions. The hemorrhage stopped in 24 hours and the mother signed a release for the child and took him home. A loca physician treated the patient with hypodermics of morphine and bromides by mouth. In two weeks the convulsions ceased. The child lost considerable weight; could not walk because of weakness; had to be fed every hour; mentality dull and speech thick. A special prescription containing triple bromides and Fowler's solution was given every four hours and the patient remained free from convulsions for six months. When "out of a clear sky" he was seized by a rapid succession of attacks coming on about every ten minutes. Hyoscine treatment was again resorted to, with beneficial result in three days. Some friend suggested Peacock's bromides, which were given three times a day. The patient's mentality was affected—he became disinterested in matters, sat in one corner, although he would answer questions addressed to him in disconnected phrases.

I was called in to see the patient in August, 1920. Physical examination disclosed an emaciated youth of 10 years, who was unable to speak except in a low, muttering tone, impossible of understanding. Neurologically negative. Mentally dull. While present he had a typical "Grand Mal" attack lasting two minutes.

I prescribed luminal (phenyl-ethyl barbituric acid), grs. 1½ every four hours, ordered a S. S. enema daily. In the course of three days the child was free from all convulsions; at the end of a week appeared brighter and was able to sit up, and in another week walked around the room. His mind seemed clearer, he would talk to his sister, and even asked for a newspaper to read. The dose was then cut down to grains 1½ b.i.d., and after two months prescribed at night only. The patient has gained weight, is able to go on errands and has been free from attacks for the past year.

Case No. 37. L. F., age 32, post-office garage employee. Past history negative. First convulsion December 7th, 1919. Arrived at hospital in unconscious state, frothing at mouth, nose bleeding. No history being available, X-ray of skull was taken for fracture, which proved negative. Patient regained consciousness and fell into a sound sleep which lasted three hours. There were no movements of the extremities. The next day he had a typical major attack which lasted five minutes. He was put on luminal grs. 1½ b.i.d. and left the hospital in one week, having been free from convulsions for three days. The patient was cautioned as to his condition and advised to continue on medication (grs. 1½ at night). The patient kept up his treatment faithfuly, reporting once a month for observation, until February, 1921, believing himself cured, since he had no attack in the interim. Everything went along all right until March 6th, 1921, when he met with an auto accident and fractured his nose. He was immediately taken with an attack which lasted twenty minutes, and sent to St. John's Hospital, Queens. The nasal condition was treated, but convulsions continued, one to three a day. He reported at my office three weeks after and luminal grs. 1½ b.i.d. was again prescribed, which has controlled the attacks. The dose was cut down to gr. ¾ at night and the patient has been free from attacks since then.

Case No. 40. P. M., age 14. Family history negative. Was hit on head with baseball at age of 10. Boy attended school and developed as other children. First convulsion at 11 years of age of major character. X-ray taken at this time was negative. Second convulsion one month later. A bromide mixture was prescribed. Convulsions reappeared every two or three months. In 1920 the attacks increased in severity and intensity. A stereo-X-ray of skull was taken and showed a depressed fracture of the frontal (right) region. A decompression operation was performed and the boy was free of convulsions for six months, when the attacks came on almost daily and at times there were as many as three to four attacks a day.

I saw him for the first time in December, 1920, and having been told the foregoing history, nevertheless instituted luminal therapy, grs. 1½ b.i.d., with a surprisingly good result. He reported back in one week to inform me that his attacks had ceased and his head felt lighter. The treatment was continued (grs. 1½ at night only). He has had but one attack, and that of a minor character, in the past eight months.

Case No. 52. R. I., age 24, ex-soldier. Family and personal history negative. Received g.s.w. of head while in France, resulting in fracture of skull (right occipital bone). Bullet was removed and decompression performed at Red Cross Hospital, Paris, 1918, with good result. Patient returned to United States free from all symptoms except a slight weakness in left upper extremity. In September, 1919, first attack appeared. X-ray of skull negative. Spinal fluid was negative. Triple bromides and Chloral hydrate were given by rectum because of the frequency of the attacks. The drugs controlled the seizures to a certain extent, but no definite relief was obtained until the patient was given luminal. He was finally sent to East Norfolk, Mass., for special treatment, but fared badly and returned to New York, where he was again put on large doses of luminal. He has been able to take up a course in Vocational Training and has had but two attacks in the past year. The patient continues to take grs. 1½ at night.

Case No. 101. Age 45, school teacher. Family history, past history and personal history, negative. First attack at 25 years of age. No known cause. Physically, patient is six feet high, thin, skin soft and smooth, poor muscular development. She has complained of bi-temporal headache for the past thirty years. Menstruation ceased at age of 32. Attacks at first came on every four to five months and were controlled to a greater extent by the continuous intake of triple bromides grs. .5 b.i.d.

This patient appeared at Clinic in January 1921 after a spell of attacks. Her face and body were covered with a bromide rash. X-ray of skull was taken which proved negative, except for a small sella turcica. Urinolysis showed the presence of sugar altho the blood sugar was within normal limits. The case was evidently one of dyspituitarism and a course of glandular treatment was instituted. This brought about no result; if anything, the patient claimed her attacks lasted longer. I therefore prescribed luminal grs. 1½ b.i.d. She has had no attacks for the past seven months.

CONCLUSIONS.

1. Luminal is the treatment par excellence in Epilepsy.

2. Luminal is not a curative but a therapeutic preventive agent in epilepsy, as is evidenced by the fact that cases which have remained free for attacks for months or even years resume their old character, but in a worse degree when this drug is suddenly withdrawn.

3. Luminal may be used in pathological epilepsy as an after- treatment as all cases of epilepsy whether recent or long standing, idiopathic or pathological are associated with cell destruction or disintegration producing a certain amount of scleriosis or gliosis of brain tissue, thereby blocking the reflex pathways and confirming the discharge of the stimuli to narrow limits which exhibit themeselves in outward manfestations (the attacks).

4. While there is no doubt that ductless gland therapy is beneficial in certain cases, its use in combination with luminal has been more advantageous in a series of 15 cases under my care and weight, I believe, must be given to the effect of the luminal.

5. Luminal may be given in large doses over long periods of time without injurious constitutional effects—gastro-intestinal, cutaneous and mental.

The Breast and the Nursing Child.*

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A RECENT writer refers most suggestively to the variability as well as the wonderful adaptability of breast feeding when he says: There is no such stability in the breast milk as in the milk formula in the bottle. It changes not only several times a day and during each nursing, but is influenced and determined by the frequency of the nursing, length of the nursing, and vigor of the nursing; that is, it adjusts itself to the kind of baby and the condition of the baby at the breast. How valuable this is when the baby is not feeling well, or needs less energy food, as in summer, all who treat babies know. While a milk-modifying laboratory looks impressive, with its big pasteurizers and instruments of precision, it is not comparable to the delicate laboratory of the mother's breast[1]." As to the variability in the (a) *amount* secreted, Abt says: The largest quantity ingested at one meal may be two or three times as great as the smallest quantity taken at one feeding on the same day.[2] As to (b) *percentage* variation of the different constituents, Talbot has shown what an amazingly wide latitude may exist without constituting abnormality.[3] The varying (c) *vitamine content* has been shown by McCollum in his "Newer Knowledge of Nutrition[4]." All these facts but emphasize the futility of supposing that artificial feeding can ever approximate in flexibility and adjustability the natural processes of modification conditioned upon the interrelation and interplay between mother and babe.

It would be claiming too much for breast feeding, however, to believe, as we are prone to do, that it will maintain itself indefinitely without skilled supervision. In many cases it will; but for those in which it will not, a very flexible technique, based upon a thorough knowledge of and familiarity with the physiology of lactation, is required of the medical attendant who prefers to do his weaning when he wants to, not when he is forced to. Such a technique must be more flexible and elastic than that required for artificial feeding; but its results are enough more valuable to make its acquisition well worth while.

A careful search of the literature for the past five years recently completed, showed an almost complete lack of any recorded detailed observations of cases of lactation, except for the work in maintenance and reëstablishment of breast feeding carried on so extensively and so successfully under the inspiration of Sedgwick[5,6] and his coworkers, in their great sociological demonstration at Minneapolis. Propaganda for increased breast feeding there was, increasing in amount toward the end of the five-year period; but observations of the every-day phenomena of nursing, and the wonderful modification of the factory in adapting its output to the varying needs of the ultimate consumer, were exceedingly scarce. Such observations are left, as a rule, to the grandmother, the nurse, or the inexperienced mother, and so, of course, go unrecorded. I believe it is no exaggeration to say that such a study is absolutely necessary, if we are to lift the art of breast feeding to the scientific level to which its results in decreased infant mortality and morbidity would entitle it.

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The conclusions here presented are based upon an intensive study of three normal lactations, extending over a period, respectively of nine, ten, and nine months, without complementary feeding. It is an attempt to add to the very meagre literature on normal, healthy lactation, for the purpose of maintaining this function whenever its continuance is threatened. These cases were to be checked up by ward studies. It was at once realized that ward studies proper would necessarily cover but the very earliest portion of this frequently hectic period in the life of mother and child—in fact, hardly more than its establishment—before the patients left the hospital and its opportunities for careful record keeping. It seemed wisest, therefore, to substitute for records of the artificial conditions of hospital life the more human, if less exact, careful clinical observation of the normal processes of lactation as they occur at home, carried out by both the mother herself and the physician. Such processes never come under the observation of the hospital resident or the trained nurse. We sometimes forget that many of the mothers of to-day are the kindergarten and primary teachers of yesterday; and the kindergarten institute and the normal school offer to-day a far better training in the observation of *normal* processes in the young than does any medical school. The observations of such mothers along lines of intense interest to them, because of such value to their babies, can aid us immeasurably in making advances in this field.

In order to get the desired material from these mothers, covering all three periods of lactation (establishment, middle period, and retrogression, or weaning), a questionnaire was prepared, covering some of the more striking points brought out in the more intensively studied cases, with the idea of confirming or contradicting the conclusions drawn from this smaller number. Twenty-two were chosen; these, with the three special cases, made a total of twenty-five, which made the translation from cases to percentages a simple matter of multiplying by four, in any given instance.

Only one who has himself kept minute detailed records of the events in the developing life of a baby or a young child, and then employed such records as a check upon his memory of events thus recorded, realizes how inadequate as an instrument of precision the questionnaire can be! It shares with the ordinary hospital anamnesis the questionable eminence of being one of the most inaccurate documents known to man. However, for the want of a better record, such as was available in the three cases more intensively studied, we shall use it, bearing in mind the fact that most of these babies were being seen periodically as well babies; and evaluate its conclusions according to its limitations.

The following is the questionnaire employed:

Date of birth   Date of report

1. How was the general state of your health during your nursing period? Fatigued or nervous?
2. Did nursing tire you? The actual nursing act? Or the whole affair?
3. Did you gain, lose, or remain stationary in weight?
4. If you gained in weight, was it excessive? Did you gain flabby flesh? Was the gain temporary? Permanent? How long?

5. What difficulties, if any, did you have with your nipples?
6. What difficulties, if any, did you have with your breasts?
7. When did your periods recommence? Were they painful?
8. Did you feel that this affected the baby? If so, in what way?
9. In what way was your appetite affected by nursing? Your thirst?
10. Did you nurse on one or both breasts at each feeding?
11. Have you always had enough milk, or were you sometimes worried as to quantity for the baby? How old was the baby when this occurred?
12. Have you found any reason for a decrease in your breast supply?
    (a) Does getting tired diminish it?
    (b) Does lack of sleep diminish it?
    (c) Does going without enough to eat diminish it?
    (d) Has an intercurrent diarrhea ever diminished it?
    (e) Have your periods diminished it?
13. At what feeding did you have the most milk? At what the least?
14. Have you ever had to give complementary feedings?
15. Have you ever found anything that increased your milk supply?
    (a) Does taking any special kind of food increase it?
    (b) Does taking any special kind of fluid increase it? Milk?
16. Do you think you ever overfed the baby?
    What is your guide in answering this question?
17. Did the baby ever vomit?
18. How long did the baby nurse? How long on 3-hour feeding when you changed to 4 hours? Did you stop at twenty minutes?
19. Any change in length of nursing time as child grew older? If so, what? And when?
20. Describe a good nursing.
21. Describe a poor nursing.
22. What effect did stopping the night feeding have on the amount of milk in the breasts at night? Painful?
23. "Coming in" of the milk, at each nursing?
    (a) Do you feel the milk "come in" before you commence to nurse? During the nursing?
    (b) Just what is the sensation—can you describe it? Is it painful?
    (c) Does it occur with every nursing? Oftener? Does it occur between nursings? What seems to cause it?
    (d) Does anything make it come more frequently? In greater quantity? Or greater intensity?
    (e) Does eating affect it? Does taking milk affect it? Does taking other liquids affect it as much as taking milk?
    (f) How long are you conscious of this sensation?
    (g) What nipple changes occur with this?
    (h) Are the nipples turgid, erect, and painful? Does the baby get hold of them well? Does nursing reduce this swelling and painfulness of the nipples, or does is subside of itself, irrespective of the baby's actions?
24. Can you tell, by the way your breasts feel or the way the baby acts, if the breast is emptied?

As is well known, some two days or more after the birth of the baby, the true milk rushes into the breasts to such an extent that the child cannot nearly empty them. This is, as a rule, a most painful experience for the mother. A breast binder and vigorous catharsis is quite commonly employed by the obstetrician to control the excessive quantity. In one case studied, the breasts were so painful that the mother was obliged to lie on her back, without moving either to one side or the other; and it was ten days before she could comfortably roll over and sleep in the prone position, even with a tight breast binder in position. In addition to the pain of the overdistension of the breasts, there is extreme turgidity and sensitiveness of the nipples. As if these two factors were not enough to render nursing exquisitely painful, a third is added by the colicky contractions of the uterus stimulated by the suckling of the newborn child. These afterpains are especially severe, of course, in multiparae.

I. The first point of interest to be brought out in this study was the fact that, immediately following this influx of an excessive amount of milk, it is common to see a marked *diminution* in the amount secreted. This may be so marked as to give rise to the belief on the part of both mother and obstetrician that the milk supply has permanently "dried up." Nurses in a semi-private institution, where no great effort is made as a routine measure to conserve maternal feeding, told one patient that it was quite common for their patients to lose their milk entirely at this time—with a forced weaning as a consequence. It is quite possible that this marked diminution may be due to the practice of administering a vigorous cathartic, binding the breasts, and restricting fluids, ordered by the obstetrician in answer to the mother's complaints. Whether this be the reason or not, the fact remains that the maintenance of nursing trembles in the balance at this time. Unless the medical attendant is on his guard and will assure the mother that this is not a final recession of the milk secretion, but merely an incident of common occurrence and rather to be expected than not, it may suffer an untimely termination at this early date. Borrino of Italy, in a paper entitled "Factors Impeding Breast Feeding,"[7] dwells upon the frequency of early weaning from this cause. She says that in 200 cases of early weaning only eighteen stopped nursing *after* the first month. All the other weanings took place during the first or second week post partum. She draws the conclusion that proper medical supervision and advice at this time practically insure the maintenance of breast feeding until such time as the doctor wants it to terminate. In other words, the responsibility for the maintenance of breast feeding lies largely with whoever confines the woman, whether that be the obstetrician or the family doctor. In one of the cases studied, this decrease occurred as late as ten days post partum; in another, after the patients had left the hospital—perhaps three weeks after the birth of the child.

II. Quite another thing from this coming in of the milk just described that initiates true lactation as distinct from the secretion of colostrom, is a second point brought out by this study. It has to do with a phenomenon that mothers themselves commonly refer to as the "coming in of the milk," or the "filling up of the breasts," which may occur a number of times a day throughout the whole nursing period. While no mention of this has been found in the search of the literature alluded to above, mothers on being questioned seem to take it for granted as a universal occurrence, and so make no mention of it unless definitely interrogated upon the subject, in which case they describe it very freely. It is worth going into in some detail.

Time of its Occurrence. It takes place (*a*) in the intervals between nursings, or (*b*) during nursings, or (*c*) both between *and* during nursings, according to the varying experiences of different mothers. It is an occurrence common to all stages of the period of lactation.

Exciting Cause, or *Stimulus.* It is started up sometimes by drinking milk, sometimes by drinking water. The ingestion of food sometimes causes it. Especially is it the case that this influx can frequently be induced by drinking a glass of water while the baby is nursing, a fact commonly taken advantage of by mothers when their milk supply is a little slow and the baby does not seem satisfied at the breast. Some mothers think that it is stimulated by the baby's touching them. Others think that it occurs quite spontaneously—at any event, they are at a loss for any assignable cause.

Sensation. (a) If the breast is *quite flat or empty* when it occurs, the mother may not feel this coming in of the milk. She recognizes its occurrence, however, by the fact that the baby, who was nursing listlessly or fitfully, suddenly begins to suckle more rapidly and to swallow more frequently. (b) If the breast is *fairly full* when it occurs, the mother is plainly conscious of the coming in of the milk. (c) If the breast is overfull at this time—for example, if a nursing is overdue—the coming in may be very painful. The nipples are then turgid and very sensitive; and under them there is a sensation of fullness, heaviness, or "caking." At such times one may be able to demonstrate the reservoir or ampulla in this situation by its swelling and hardness. Under such circumstances the commencement of nursing may be excruciatingly painful. Instead of such a nursing being the satisfactory one that a mother can reasonably expect when she has an abundance of milk, it seems very difficult for the baby to take hold of the nipple and get his meal started; and the nursing proceeds with difficulty until he gets the breast relieved of its overplus. Sometimes, with this surplus amount of milk, the breast from which the baby is *not* nursing will overflow. If the baby be taken away from the breast on which he is nursing, the milk will sometimes squirt from the nipple to a distance of a foot or more, spontaneously.

Time of the Sensation. The sensation is practically coincident in the two breasts, as a rule. There is sometimes, however, a slight priority in the breast from which the baby is nursing. The sensation is not always synchronous with the actual influx of the milk; in other words, a mother in which this was most carefully studied had time to get a handkerchief or pad, after becoming cognizant of the sensation, before the milk actually issued from the nipple.

The *Character* of the Sensation is variously described. One mother says it seems to start at the base of the breast—"sort of inside the breast." "Like the rushing of fluid to an outlet scarcely large enough," another says. "Slightly painful, a draining sensation"; "a prickling sensation and a distending of the breasts"; "very painful, as though the passage had become obstructed and had to force through something tender"; "a rather sudden tenseness and prickling feeling"; "just an expanded feeling and not painful"; "a bloated feeling—a sort of filling-up sensation"; all these different expressions are used by different mothers to describe the sensation. In many others, on the other hand, it is described as not being in the least painful. For the most part, it was observed that those in whom the sensation was well marked or painful were those who had an abundance of milk.

Changes in the Size of the Breasts. A most interesting fact noted has to do with an actual visible *increase* in the size of the breasts during the few seconds the influx is taking place, if already fairly full, as in the case of an overdue nursing period. Before the baby has had time to abstract any appreciable amount—sometimes even before he is put to the breast at all!—there is a perceptible *decrease,* though not clear back to the original size. In other words, it seems a spontaneous sequel to the coming in of the milk.

A practical point in the management of breast feeding, to be derived from a consideration of this phenomenon, would seem to be a recognition of the value of sometimes allowing a longer time for the nursing period than the orthodox twenty minutes that seems almost universally prescribed as the outside limit. For even if it be true, as has been claimed, that the suckling gets one-half or two-thirds of his whole meal in the first six or seven minutes of his nursing period, one mother found that if she allowed her baby to rest occasionally instead of trying to keep him nursing continuously, there occurred from one to three of these definite influxes of milk into her breasts. The importance of allowing an underfed child the benefit of all of this milk, before offering him his complementary feeding, is obvious.

III. A third point is the fact that during lactation the appetite and the thirst are both considerably augmented—physiologically, apparently compensatory to the drain on the mother incident to supplying food and fluid to the nursling. 48% gave appetite and thirst as being increased; 24%, appetite, but not thirst, increased; 8%, thirst, but not appetite, increased; and 20%, neither appetite nor thirst increased. In other words, furnishing food and fluid for their babies caused all but one-fifth of the mothers to increase their intake of foods and fluids, or both; and as some of the latter were reporting on lactations of several years past, their failure to remember an increase of appetite and thirst can fairly be considered as constituting negative testimony, and so be evaluated as of less weight than the positive testimony of those who gave an increase. This being the case, it would seem that we may safely leave to Nature any forcing of fluids or food necessary, and thus save our mothers the Strasbourg goose experience so often considered essential to successful lactation.

IV. A fourth point, and one of the greatest practical interest and value, if accepted as true, concerns the impossibility of overfeeding a healthy breast baby, providing moderately long-interval feedings are employed. In spite of the fact that the literature is full of warnings concerning the evils of overfeeding babies and that we are constantly implored to beware of allowing the baby to gorge himself or to exceed the orthodox 20-minute feeding, it was found that 80% gave a categorical "*No!*" in answer to the question, "Do you think you ever overfed your baby?" The remaining 20% (five out of the total of twenty-five cases), who thought they might have done so, gave as a reason for their answer the fact that the babies had regurgitated a little milk at one time or another. As four of these were being seen by me, as often as I desired, to keep track of them as perfectly healthy babies; and the fifth, whom I was not attending at the time, is judged by the mother to have been overfed, "perhaps once or twice," because, forsooth, "he threw up quite a bit, not curdled!" I have taken the liberty of asserting that none of these were overfed. The regurgitation of a mouthful or so of uncurdled milk by a baby who is gaining in weight and is in every respect perfectly healthy, can certainly not be considered a sign of overfeeding. On the contrary, a number speak of their feeling that at times their babies were *under*fed.

SUMMARY.

There is need for the creation of a literature dealing with the normal functioning of the normal human breast, as a means toward the desired end of decreasing our lamentably high morbidity and mortality from premature weaning. As may readily be seen, there has been no attempt here to cover any very extensive area in this terra incognita—no claim to have charted out completely the natural history of breast feeding. There has been, however, an earnest attempt to demonstrate a few very definite phenomena not too generally familiar, and to draw some definite conclusions from them, as part of a technique of successfully prolonging breast feeding. Some of these are described here in detail (1-4, *infra*); the others (5-10, *infra*), which were considered at length in a previous paper,[8] to which this forms a sequel, are recapitulated here in the interest of completeness.

1. There occurs quite frequently, following the first inrush of milk that marks the beginning of lactation, a marked diminution in the amount of milk secreted. This is frequently so alarming in degree as to lead both mother and physician to believe that lactation is about to cease permanently. This probably constitutes the most frequent cause of premature weaning. Complementary feeding will tide over this danger point.
2. There is a definite and well-recognized "coming in" of the milk, which occurs several times during each day of the whole period of lactation, and which may occur several times during an individual nursing period. (This is not to be confused with the initial filling of the breast, two or more days post partum.)
3. The appetite and thirst of a nursing woman are increased *pari passu* with the demands made upon her milk by her nursing baby. Hence, "forcing fluids" is quite unnecessary.
4. If reasonably long feeding intervals are observed (three hours, or longer), it is impossible to overfeed a healthy nursing child. It is, on the contrary, quite frequently that a baby is *under*fed. The application of this point is quite obvious.
5. The nine months or less during which a mother is nursing her child are, almost without exception, a period of marked "tiredness," amounting in many cases to a serious exhaustion.
6. Almost the sole answer given to the question concerning factors noted as diminishing amount of milk secreted is, tiredness, exhaustion, lack of sleep, etc. The remedy for this cause is embraced in the avoidance of Point 5.
7. At some time or other during lactation most women have some trouble with nipples, breasts, or both. As the surgeon rarely allows the pediatrist more than twenty-four hours' grace before stopping breast feeding, and as reëstablishment is almost never permitted in such cases, prevention is the practical point to be emphasized here.
8. Amount of milk secreted is almost always greatest at the first feeding in the morning and least at the last feeding at night.
9. The far cry between what mothers describe as a "good nursing" and a "bad" one is conditioned far more upon the difference in the amount (and perhaps in the character) of the milk secreted by the breast at that particular time than it is upon any factor concerned with the baby.
10. Only less universally noted than the above (9) is the fact that a tired, nervous, fussy state in the mother usually means an unsatisfactory nursing by the child.

If some or all of these points may be considered as definitely demonstrated, they may be of much help in the maintenance of breast feeding.[9] They constitute but a tiny beginning in the field to which they belong.

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JUNE MEETING

AT

KINGS PARK

SATURDAY, JUNE 10

EDITORIAL

What Should a Doctor's Income Be?

A LETTER to the editor of the New York Times on the subject of pay clinics which was printed February 16, 1922, takes up a statement of Michael M. Davis, Jr., to the effect that there are some two million self-supporting people who cannot afford to pay for the medical services which they actually need and who should not be classed as charity patients. The writer of the letter remarks that pay clinics would not serve those who are confined to their homes by illness, but that if physicians would reduce their fees to a pre-war status, there would be no need for pay clinics. Some paragraphs of his letter are worth quoting. He says:

"A physician does not need many patients at present charges to yield him an income of $10,000. His expenses are comparatively small, as his office is usually in his residence."

"In my opinion any man who practises medicine solely for what he makes is not fit to be a physician. The medical fraternity should be reminded that their profession which is to cure the sick and save us from physical suffering, should place them upon a higher plane than is occupied by any other calling except the clergy."

"This matter is of such importance to the great mass of the people that it should not be allowed to rest on a mere protest."

In its immediate analysis, this letter betrays that curious point of view that regards it as quite legitimate to charge all that can be collected for purely commercial services, but which limits humanitarian service to a minimum return. In the dawn of history, the priest, who was also the physician, enjoyed the best that the tribe could afford. Today, outside of darkest Africa, the priest and the physician must take, not what their services are worth, but what is left over after the lawyer, the merchant and the vendor of luxuries have taken everything they can get. If one reads aright the last paragraph quoted from R. E.'s letter, the law should step in and restore conditions such as Hammurabi instituted three thousand years or more before Christ. Then the physician's fees were prescribed and if he failed to cure, he was fined. It is of interest to recall that if a physician opened an abscess on the eye of a gentleman with a bronze scalpel and effected a cure, he received ten shekels of silver, but if he failed, and the eye was destroyed, both his hands were cut off. In the same way, if he operated upon a slave and failed, he had to replace the slave. These laws were carved upon stone and set up in prominent parts of the Empire where all could read. Is it sound logic to argue on the one hand that the relief of suffering and the saving of life are far above mere pay and on the other to prescribe their rewards by law? Does R. E. realize that the best equipped physicians are compelled to spend so many years in preliminary training that most of them are twenty-eight years old before they begin to earn their own living? Would he ask that such a man in the practice of his calling should so far abnegate himself and make his fees so small as to be unable to give his children an education equal to his own? Does R. E. realize that the attempt to socialize physicians is the surest way to do away with physicians? This question of providing adequate care for the self-respecting, self-supporting class who cannot afford to pay large fees for the services which they should be able to command, is one that is causing all thoughtful physicians much concern.

In many instances it is possible to enlist the services of one's professional friends and to obtain such services through hospitals and teaching clinics. Indeed, a large portion of the writer's work is in giving just such service through his hospital association and in that work he meets with a curious attitude on the part of the patients and their friends. Many patients of the class of which we are speaking are unwilling to accept ordinary accommodations in the hospital, but they demand single rooms and special nurses,—luxuries,—while refusing to pay for the one thing for which they entered the hospital, professional skill and experience. Until the time arrives when bricklayers go back to full time service and lay two thousand bricks instead of the five hundred which they now call a day's work; when carpenters and painters and plasterers; when coal miners and railroad hands cease to demand exorbitant pay for comparatively unskilled work, then, and not till then, will it be right to ask the highly educated physician to curtail his earning power and reduce his fees. He, of all men, must keep up the appearance of prosperity in order that his patients may have confidence in him as a physician. In order to attract patients, he must pay a larger rent and keep up a more expensive household and provide himself with expensive transportation, only to find that under existing conditions, his average income only just meets his necessities. If R. E. and others like him will take the pains to acquaint themselves with facts, they would cease to criticise physicians and might be persuaded to look into their own lives for some of the factors which are bringing about a social unrest that is as unreasonable as it is unjust.

H. G. W.

A Splendid Achievement

THE proof of the pudding is the eating. One has only to attend one of the Friday afternoon clinical lectures that have been arranged by the Medical Society of the County of Kings to realize the full significance of this innovation.

When more than five hundred physicians can find the time to give an hour every Friday afternoon to self-improvement, it is evident that the Society has hit upon something which fills a real need in the medical life of the community. The Society has issued invitations to all the twenty-four hundred physicians in Brooklyn and is sending a weekly postal card announcing the lecturer and his subject and will continue the plan so long as the response shows that there is a definite demand for the service. Truly it is no small privilege to be able to hear without charge an authoritative demonstration of all that is most important in daily practice and it must be an inspiration to any lecturer to stand before an audience that fills the MacNaughton auditorium literally to overflowing. As one examined the faces of the audience he could not help but be struck by the representative nature of the gathering. Physicians of all ages were there and they followed the speakers with the closest attention. Any society that can boast of having instituted an educational course which has become at once so enthusiastically popular may well plume itself upon being a power for good to the community. The President, Dr. Frank D. Jennings, and the committee, headed by Dr. Charles A. Gordon, ought to be heartily congratulated for the conception and execution of this splendid idea. It may be that this will be the nucleus for a country wide seminar in post graduate medical education. H. G. W.

JUNE MEETING
AT
KINGS PARK
SATURDAY, JUNE 10

Society Transactions

Regular meeting of the Brooklyn Surgical Society, held in the amphitheatre of the Long Island College Hospital, Henry and Amity Streets, Brooklyn, N. Y., Thursday, Nov. 3, 1921, at 8:30 P. M.

The President, Robert F. Barber, M. D., in the chair.

PROGRAM.

Papers.

1. The Treatment of Fractures of the Femur; Presentation of Patients; X-rays; Apparatus. Dr. S. Potter Bartley. Discussion by Dr. Victor A. Robertson.
2. Basal Metabolism; Presentation of Metabolometer. Dr. Louis C. Johnson.
3. Value of Basal Metabolic Test and Epinephrin Test in Thyroid Lesions; Lantern Slide Demonstration. Dr. Emil Goetsch. Discussion by Drs. Henry F. Graham and Emil Goetsch.
4. A Consideration of Frontal Lobe Tumors of the Cerebral Hemispheres; Presentation of Patient; X-rays. Dr. Horace G. Dunham.
5. Empyema in Infants and Young Children; Presentation of Apparatus and Patient; X-rays. Dr. Ralph Harloe. Discussion by Drs. Edwin H. Fiske, John E. Jennings, Richard W. Westbrook and Ralph Harloe.

Robert F. Barber, M. D., President; Thomas M. Brennan, M. D., Secretary.

The Treatment of Fractures of the Femur

S. POTTER BARTLEY, M. D.

Brooklyn, New York.

PERHAPS the greatest contribution to surgery that the war has given us is the lesson learned in the treatment of fractures and traumatic osteomyelitis. This was accomplished by a standardization of splints and principles of treatment with instruction of the medical officer in the use of definite procedures and apparatus.

To those of us who were in France at an early period, the diminished mortality and morbidity observed in fractures of the femur, treated by standard methods, was one of the most encouraging and stimulating lessons of the war.

The management of femur fractures has always been, and is to-day a surgical problem, especially in our great industrial centers. Different methods of treatment in the hands of different skilled surgeons still continue to give varying results. The patient with a fracture of the femur still presents at least, a potential disability. That he must be returned to the community with the least possible disability and that this should not be dependent entirely upon the skill of his surgeon and his method of treatment is evident.

It is with this conception of the problem that the technique here described has been applied to the fracture of civil hospital practice since April 1919.

The difference existing between war fractures and those of civil practice is worthy of consideration. The war fracture is in the largest incidence compounded with loss of bone substance, or extensive communition. Because of this fact and the injury sustained by the soft tissues, destroying at least a part of their contractile power, war fractures are more easily reduced than those of civil practice. The compounded civil fractures due to direct violence, more nearly approaches the pathology of the gunshot fracture. In spite of this difference the principles of treatment remain the same.

The principles of immobilization here are not the classical, and too long practiced ones of Bonnet; "the articulation above and below the fracture must be immobilized"; this implies that the whole limb must be immoblized. Fixation thus employed fixes the neighboring joints and when the bones have at length united the function of the limb has been impaired by stiffening of the joints and atrophy of the muscles. The stiffening of the knee joint thus produced, is in some degree permanent, in many cases and prolongs the period of functional disability. The result then of such immobilization is far from satisfactory, although it has been in common use for years.

The striking anatomical results obtained in the last few years by operative methods are well known to the author, but these are not the methods to be standardized for the use of all as they require a very special technique and considerable skill and depend too much on the individual surgeon and not enough on the method of treatment.

It is a regrettable fact that many of the cases with perfect anatomical results are not able to follow many ordinary employments. All of us know of many such cases recovering with perfect use of the knee, but a very few of us see the many cases with knees permanently stiffened by long immobilization necessary for fractures of the femur.

Many praiseworthy efforts are being made to restore function to these knees by operations, exercises, manipulation, massage, electricity, heat and baths of 57 varieties, but apparently the results are far from satisfactory.

Prevention is much easier than to cure. The method to be demonstrated here allows the use of the knee by active and passive movements from the beginning until the end of the treatment without injury to the fracture or the soft parts, but with advantage to both.

It prevents months of sometimes useless efforts for the restoration of function after union is present in the fracture.

In addition, active movements of muscles, electrical stimulation and unimpeded circulation are permitted during the period of treatment. When the patient leaves his bed he has active muscles and freely movable joints to start his effort for the return of full function.

The principles of the treatment are indeed old and were urged long ago by Lucas Championnier's, "the early mobilization of joints adjacent to the fractured bone."

This method has been widely accepted in the management of Colles' and Pott's fractures, but not in the fracture of the femur.

The principles involved are briefly:

Immobilization by the method of suspension, traction and countertraction suppresses all fixation by plaster, splints, etc., except apparatus such as Delbet's, which does not fixate the joints above and below the fracture. By suspension, traction and countertraction fixation is automatically produced, for movement of the fractured leg is only possible in toto and cannot occur within the region of the fracture.

Fixation is maintained by preventing the transmission of the forces of movement. Mechanically this may be compared to suspension from a universal joint.

Flexion is maintained at the hip and at the knee, relaxing the pull of the musculature and facilitating reduction. Extension is applied above the knee joint. The knee is left free for massage, active and passive motion.

1. Demonstration of case with apparatus applied.
2. Technique of application of calipers for extension.
3. Tabulated report of 43 cases, presentation of individual cases with X-R plates.

INSERTION OF CALIPERS (*Technique*)

The patient is not removed from the bed and the entire apparatus is applied as described excepting the traction.

The leg is supported high in the splint so that the condyles come well above the lateral bars of the Thomas Splint. This gives easier access to condylar region of the knee. The leg above the knee is shaved and prepared as in any surgical procedure, no special preparation being used. Tr.. Iodine is then applied and the area draped with sterile towels.

Gas oxygen anesthesia is used. The anesthesia is always preceded by morphine gr. ¼—atropine gr. 1-100.

An incision is then made about 1″ longtiudinally to the abductor tubercle of the condyles, another incision is made on the opposite side of the knee at right angles to the axis of the tibia in the same location. These incisions are carried down but not through the deep fascia.

The incisions are packed with gauze for a few moments to prevent bleeding. Some operators then rub the incisions with Bismuth petrolatum paste, but this seems an unnecessary procedure. The calipers are now introduced in to the proximal end of the wounds so as to prevent tension of the skin and then firm pressure is made until the cortex is reached. The points are then pressed into the cortex to insure a grip for a very short distance. The screw is then set to prevent penetration and the traction ends of calipers fastened together with string to prevent joggling.

The rope for extending is applied and weights attached by means of pulleys and cords as in previous description. This keeps calipers in place and as long as extension is present no slipping can take place.

The incisions are packed by strips of gauze around calipers points and collodion applied, one or two layers of gauze are put on for added protection and held in place by adhesive strips.

It is entirely unnecessary to bore the bone or cut down to the bone for the application and only increases the risk of infection and complicates a simple operation.

The point of application of the calipers is the most important part of their application. X-Ray study of the types of fracture and the deformity present is an important factor. In the supra-condylar fractures the anatomical point of application must be more carefully considered for mechanical reasons.

The most practical points for insertion of the calipers are the condyles outside of the reflexion of upper limits of the knee joint synovia. A little more difficult insertion is upon the shaft back of the condyles where the roughened cortical bos makes an excellent surface for the caliper insertion. Excessive penetration and slipping are less frequent at this insertion.

Care must be observed not to penetrate the synovia of the joint and not to injure the anastomica magna artery in its course.

If they are applied to the tuberosities of the condyles in an anterior position and traction is made in a direction parallel to the femur, the lower or distal fragment will tend to over elevate. If they are applied too far posterior on the condyle the reverse is true and the distal fragment will be depressed still further towards the popliteal space.

If one point is applied deeper than the other and more distally the lower or distal fragment will tend to abduct or adduct itself, and the pull will cause the inner or outer point, as the case may be, to penetrate too deeply into the bones and the caliper slips and lets go its hold altogether. See Figure Six.

The direction of pull should in most instances be in the long axis of the femur. Occasionally through improper application of the calipers this has to be modified to overcome the faulty position of the calipers.

All these details are necessary in order to correct malposition and alignment and insure good anatomical results.

The amount of weight applied on caliper extension of course varies. I personally apply 15-20 lbs. and increase or diminish as necessary; in certain cases I have applied as much as 30 lbs. and as little as 10 lbs.

Pain is present in most cases for the first forty-eight hours. During this period morphine is given freely and materially helps in the reduction by relaxing the muscles. Pain may be caused by joggling of apparatus. This should be remedied as suggested.

Too much weight may be painful and should be reduced if patient complains, and added again later if necessary. Even if calipers are perfectly applied, occasionally a patient will complain. Injections of 2% cocain sol. by hypo into caliper joints generally will relieve the painful symptoms.

In a few cases, at 3-5 weeks, patients will begin to complain of pain and burning. Hot formations about the joints will relieve the pain, as it is due to aseptic inflammation with edema. If pain cannot be relieved the calipers should be removed and applied at a new point.

(Demonstrations of types of calipers used and illustrations of improper insertion of same.)

INCIDENCE OF AGE.

Age	No. of Cases
0-1	1
1-10	15

10-20	4
20-30	3
30-40	3
40-50	7
50-60	4
60-70	4
70-80	1
80-90	1

INCIDENCE OF SITE OF INJURY.

Site of Injury		No. of Cases	Mortality
Neck of		8	..
Inter-trochanteric		5	..
Sub-trochanteric		1	..
Shaft	Upper	3	..
	Middle	20	..
	Lower	..	..
Supra-Condylar		4	..
Condylar		2	..
Total Cases		43	..

Complicated by multiple injuries including other fractures, 5 cases.
Open operations, none.
Non-union—Necks, 2; shaft, 1.
Mortality, none.

Functional results	Good	Moderate	Bad	
Adults	15	10	4	1
Children	20	20	0	0
Neck of Femurs	8	3	3	2
	43	23	7	3

Tabulated results of treatment.

SUMMARY

It must be fully understood that while the author believes this should be the standard method of treatment in most all cases of fractured femurs occurring in hospital service, that there are many difficulties to be overcome. It can only be properly applied after considerable experience and with attention so dramatic as an open reduction of a femur fracture.

It is quite necesary to have an efficient house staff and an organized fracture service under control of one surgeon. Segregation of cases into fracture wards, a department of Physio-therapy under control of Department of Surgery. Proper methods of keeping fracture records, and a systematized follow-up clinic are factors which tend to develop the efficiency of this treatment. The methods employed are new to us and require further investigation and study.

The Value of Basal Metabolic Rate Determination and the Epinephrin Test in the Diagnosis and Treatment of Thyroid Disorders

EMIL GOETSCH, M. D.
Brooklyn, New York.

THE importance of having specific clinical tests as aids in the diagnosis and differentiation of that large and obscure group of diseases due to disorders of the endocrin glands is apparent. Of all the ductless glands the active principle or the specific secretion of the thyroid gland is perhaps the best understood. The clinical evidences of over- or under-activity of the thyroid have been known and recognized for a considerable time, and more recently great strides have been made in our knowledge concerning the physiological effects of thyroid secretion. It is desirable to know what the properties of the specific secretion of a gland are and what the clinical manifestations most likely would be if this secretion be present in excessive or diminished amounts in an organism, before we can hope to apply a clinical test for disturbances in the function of a gland, and hence in the character and amount of its secretion. It was not long after we learned of the action of thyroid secretion that tests for evidences of its presence in increased or diminished amounts were forthcoming, and subsequently served as aids in the recognition of clinical states of hypo- or hyperthyroidism.

There is a great deal of evidence now available which indicates that thyroid secretion has at least three very definite functions upon which are based three of the more recent and most valuable tests for thyroid disorders. In the first place we know that thyroid secretion has a specific stimulating action upon the sympathetic portion of the autonomic nervous system rendering the latter hypersensitive to the action of epinephrin. It is upon this fact that my epinephrin hypersensitiveness test (1) is based and has consequently been recommended by me in the diagnosis of clinical states of hypo- and hyperthyroidism.

Secondly, during the past twenty-five years abundant evidence has accumulated to show that thyroid secretion has an additional stimulation action upon metabolic processes in the body causing, when present in excessive amounts, increased metabolism and when present in diminished amounts, decreased metabolism. It is due to these facts that the determination of the metabolic rate may be used as an index of the presence of an excessive or diminished amount of thyroid secretion.

Thirdly, thyroid secretion has a definite action upon the mobilization of carbohydrates, particularly in the liver, and a retarding action upon the combustion of sugar in the blood as a result of which hyperglycemia follows when this secretion is present in increased amounts. As a consequence the determination of blood sugar or, in other words, the test for hyperglycemia has been used as corroborative evidence of an increased or diminished thyroid activity. These three tests are at the present time the most practical and the most helpful.

I shall not go into a detailed discussion of the third test, namely the hyperglycemia test, which is of less value than the epinephrin and metabolic tests. We know that carbohydrate metabolism is influenced by so many factors other than the thyroid and that, although alimentary hyperglycemia and even spontaneous glycosuria is fairly common in hyperthyroidism, nevertheless hyperglycemia is found also in a number of other diseases. The test is of limited value because of the fact that the degree of hyperglycemia is not parallel to the degree of thyrotoxicosis; that the carbohydrate changes are not specific for thyroid disturbances, and that the hyperglycemia is influenced by so many factors, such as nephritis. It is impossible therefore for us to interpret the hyperglycemia test as at all pathognomic of hyperthyroidism. The findings of glycosuria and hyperglycemia in other pathologic conditions, such as fever, alcoholism, neurasthenia, and in the various endocrinopathies somewhat nullifies its significance; but when these can be excluded, its presence is highly suggestive of hyperthyroidism. I shall speak then of the two clinical tests which are now very generally used for the detection of hyperthyroidism, namely the epinephrin hypersensitiveness test and the metabolic rate determination.

It has been shown as a result of abundant physiological research by a number of investigators, such as Eppinger, Falta, Rudinger and Hess of the Viennese School, by Asher and Flack of Berne, and by Cannon and Levy in this country, that in hyperthyroidism experimentally produced and in a few instances of clinical hyperthyroidism, the sympathetic nervous system is hypersensitive to epinephrin chlorid, and in states of clinical hypothyroidism or after thyroidectomy in animals there is an increased tolerance to injections of epinephrin. Applying this knowledge to a study of approximately 800 patients suffering with disorders of the thyroid gland, I found (1) that the patients with hyperthyroidism uniformly showed a remarkable sensitiveness to small doses of epinephrin subcutaneously administered. This hypersensitiveness usually expressed itself in rather marked increase of blood pressure and pulse and in exacerbation of the clinical signs and symptoms characteristic of the disease. All cases of hyperthyroidism, whether produced by exophthalmic goiter, adenoma puberty, hypertrophy and hyperplasia or diffuse adenomatosis of the thyroid gland were verified by careful histological study of all the operative material with especial reference to the occurrence of mitochondria as criteria of functional activity (Goetsch, 1916). As a result of my studies on this subject a clinical test for hyperthyroidism was evolved. I shall not enter into a discussion of the technique of my test which is described in published reports. I may say briefly that the status of the patient at rest is carefully noted, with particular reference to the pulse, blood pressure, respiration and the subjective and objective findings such as nervousness, tremor, throbbing, asthenia and vaso-motor changes. A hypodermic injection of 0.5 c. c. of epinephrin chlorid is then given. Any changes in the findings are carefully noted over a period of an hour to an hour and a half and then compared with the status of the patient before the injection of the drug. A positive test always confirms and usually establishes the diagnosis of hyperthroidism. When positive, the test is an indicator of hypersensitiveness of the sympathetic nervous system. There is a small percentage of clinical conditions which give an atypical reaction, and which are not dependent upon any definite pathological change in the thyroid gland. However, the test is positive in all cases of hyperthyroidism. Furthermore, of all the diseases which may possibly be associated with a hypersensitive sympathetic, hyperthyroidism is by all odds the most common. In the presence of a negative response to the test one can state definitely that hyperthyroidism is not present. To be able to differentiate even to this extent is of great value in the diagnosis of obscure cases.

In a positive reaction there is usually an early rise in systolic and a fall in diastolic blood pressure, in other words a marked increase in pulse pressure. In a very mild reaction the fall in diastolic pressure alone may occur. In a definitely positive test the rise in blood pressure may be all the way from ten to as much as fifty or more millimeters of mercury. In the course of thirty to thirty-five minutes there is a moderate fall of the pulse and blood pressure, then a characteristic secondary slight rise and finally a second fall to the normal in about one and one-half hours. Together with these changes one sees an exaggeration of the clinical picture of Graves' disease or other forms of hyperthyroidism, especially the nervous manifestations. The symptoms of which the patient has complained are usually increased and often symptoms which are latent at the time of examination but which have previously been present are characteristically brought out. There are often increased tremor, apprehension, throbbing, asthenia, and in fact an increase of any of the symptoms of which the patient may have complained. There may be, furthermore, manifestations of symptoms latent previous to the injection and characteristic of the hyperthyroidism syndrome. Vasomotor changes are common and quite characteristic. Thus, an early pallor of the face, lips and fingers, due to vasoconstriction is common, and is followed in thirty minutes to an hour by the stage of vaso-dilation with consequent flushing, sweating and warmth of the face, hands and feet. The respirations at first become slower and deeper, even sighing in character, and later more shallow and somewhat more rapid. Yawning is common. In fact, in a number of instances patients have fallen asleep during the test. They complain of considerable fatigue. The symptoms described have never been dangerous, and the manifestations produced by the test are no more than the disease itself produces and are transient, the status of the patient usually being quite normal in the course of an hour to an hour and a half.

In order to interpret a test as positive it is necessary to have a majority of these signs and symptoms definitely brought out or increased. Thus, there is at times a considerable exacerbation of the objective signs and symptoms; there may be an increase of ten points in the pulse and blood pressure together with a moderate increase of symptoms. Any combination of this kind may be regarded as positive. One must not regard a test as negative because there has not resulted from the epinephrin injection an increase or manifestation of all the possible signs and symptoms for, in order to gain a correct interpretation, one must consider the entire clinical picture produced, just as in the disease itself one cannot require every one of the characteristic signs and symptoms to be present in order to make a diagnosis.

In the exophthalmic goiter cases the epinephrin reaction in my experience has been uniformly positive and as a rule remarkably parallel in its manifestations with the severity of the symptoms. There is one qualification to the latter statement, however, and that is, that in the late advanced cases the reaction which at first one might expect to be very marked is only mild as a result of the fact that the nervous system, heart and other organs having been severely damaged by the thyroid intoxication are unable to respond to the epinephrin. The test in these cases is of course unnecessary for the diagnosis.

In the colloid goiter cases, without symptoms of hyperthyroidism, the reaction is negative; in fact, in many instances of this kind a dose of 1 c. c. or larger is necessary to produce any symptoms resembling those seen in cases of hyperthyroidism. If, however, a colloid goiter is functionally overactive and then accompanied by symptoms of hyperthyroidism, the reaction is mildly to moderately positive.

In the adenoma cases, in which the adenoma or adenomata are found to be active by histologic examination and in which there are clinical symptoms of hyperthyroidism, the reaction is found to be positive and in proportion to the severity of the symptoms. In cases in which the adenomata have become degenerated and have lost their activity and are then naturally unassociated with clinical symptoms the reaction is nearly or entirely negative. In some cases in which there has been a latent or quiescent period with absence of symptoms these are again elicited by an injection of epinephrin. This is doubtless due to a certain degree of hypersensitiveness of the sympathetic nervous system which persists for some time after the activity of the adenoma has disappeared.

In cases presenting a hyperthyroid syndrome which has not yielded to medical measures, I have frequently advised operation, on the basis of a positive epinephrin test in the absence of which the diagnosis often remains entirely obscure. At operation adenomata too small to be seen or palpated on physical examination are often found and upon their removal, striking benefits result. Furthermore, the test has led directly to a clearer conception of an obscure group of cases, which are dependent for their symptomatology upon a very definite pathological change in the thyroid gland and which I have designated, "Diffuse Adenomatosis," a pathological change of characteristic microscopic appearance and recognized by a hyperplasia of the interstitial or "fetal" cells or tissue without accompanying hypertrophy or hyperplasia of the alveolar parenchyma. The symptomatology, much as in the adenoma cases, is a characteristic one, though, as a rule, unassociated with positive eye signs or microscopic changes in the gland. The symptoms are asthenia, nervousness, lability of the pulse but without definite constant tachycardia, emotional instability with mental symptoms, oftentimes loss of weight, vaso-motor instability and a variable tremor.

Patients belonging to this group are frequently mistaken for cases of incipient tuberculosis, neurasthenia, psychoneurosis, effort syndrome and other allied disorders. On account of the characteristic syndrome and because of failure to improve under ordinary measures I applied the epinephrin test and found that these patients gave a definitely positive reaction. On this basis I advised operation, rather guardedly at first and in a series of about fifteen, several of whom had had sanatorium treatment without improvement, I have had a very considerable success following thyroid resection. The metabolic rate in these individuals is not increased and consequently they have been overlooked in so many instances. Since this is true Plummer says that these patients are not suffering with true hyperthyroidism and he therefore does not feel that operation is indicated. I say that they have a disordered thyroid syndrome, which yields to thyroid resection and whether one should call them cases of dysthyroidism rather than hyperthyroidism is merely a matter of terms. It is in this group that I feel that the epinephrin test is superior to the metabolic rate determination in the detection of a disordered thyroid.

In conditions of hyperthyroidism, in myxedema and in cretinism, in which there is increased tolerance to epinephrin, the injection test has served as a guide in the amount of thyroid gland administered, for it has been found in a number of instances that by using the standard dose of 0.5 c. c. of epinephrin subcutaneously the gland therapy can with safety and benefit be increased to the point at which there appears a slight reaction. The amount of gland feeding indicated and at the same time compatible with safety can thus be determined as the proper dosage in a given case.

The epinephrin test has proved to be of the greatest value in the differential diagnosis of many conditions simulating hyperthyroidism, of which incipient tuberculosis is possibly the most important (Nicholson and Goetsch). It has been found, fortunately for the differentiation, that tuberculosis uncomplicated with hyperthyriodism gives a negative reaction to the test. This fact has afforded means for distinguishing early tuberculosis from hyperthyroidism, two conditions which clinically simulate each other so closely that mistakes in diagnosis are frequently made. Other conditions simulating hyperthyroidism and incipient tuberculosis, which might be mentioned, are psychasthenia, psychoneurosis, hysteria, neurasthenia, dementia praecox, melancholia, alchoholism, tabagism, acromegaly, arteriosclerosis, and several other diseases. Cases of this kind give essentially negative results with the test. The importance of recognizing these conditions and separating from them the cases of true hyperthyroidism for which surgical relief can be offered need hardly be mentioned. In a few cases such as those mentioned some acceleration of the pulse and slight rise of blood pressure are observed but in all cases there is a complete absence of the subjective and objective symptoms so important in the interpretation of a positive test. Again, in these allied conditions there might be a slight transient reaction, whereas, in hyperthyroidism cases the reaction characteristically lasts from an hour to an hour and a half.

The test is of value, furthermore, in estimating the degree of toxicity present in early exophthalmic goiter cases. A markedly positive reaction is often a better criterion than clinical judgment in having to decide as to whether an exophthalmic goiter patient can safely undergo operation. The surgeon is thus warned in instances of this kind by a strikingly sharp preoperative epinephrin reaction, in which case the patient is advised to take a period of bed rest. If this has been done, a preliminary ligation of the thyroid arteries is performed. In cases in which there is a moderately sharp preoperative reaction, a thorough resection of the gland is indicated in order to gain a prompt improvement. If, in a year or more in the case of a single lobectomy in exophthalmic goiter, the symptoms are not improved to the desired degree and the epinephrin reaction is still definitely positive a second operation for removal of the remaining lobe is advised. After the second resection, the epinephrin sensitiveness as a rule gradually disappears. In the case of subjects suspected of having possible hyperthyroidism but in whom there is a negative epinephrin reaction, operation is not advised, for it has been found that these individuals are rarely if ever benefited by operation.

In brief, I do not hold that the epinephrin chlorid test is absolutely pathognomic of hyperthyroid states. I would say, however, that a negative test excludes hyperthyroidism; that in all cases of hyperthyroidism the test is positive, that there are some few conditions which give a more or less typical reaction, and which are to be remembered as exceptions. The latter, I think, can be fairly well recognized after a careful history and physical examination. At any rate, I feel that the test is practically always confirmatory, in many cases diagnostic and in others suggestive of the diagnosis. It has led to further and more careful search for causes in the small percentage of exceptions. There is a remarkable parallelism between the hypersensitiveness to epinephrin and the degree of clinical hyperthyroidism present. The test has the distinct advantage of being easily made. From a therapeutic standpoint one can, by means of the test, follow the well known variations in the degree of hyperthyroidism present from time to time and regulate the amount of gland feeding accordingly.

Furthermore, the test has many advantages over either the metabolic rate determinations or the hyperglycemia test in that it is readily understood, performed and interpreted. It is not subject to errors of possible defective apparatus, requires no special training to carry out, is inexpensive, involves no calculations and is accompanied by a minimum of inconveniences and annoyance to the patient. In the mild and latent cases of hyperthyroidism it seems to be more sensitive and therefore more diagnostic than the metabolic rate tests. It is not subject to the great variations found in the case of the metabolic determinations under different circumstances and in the hands of various observers. It would seem that in one important group, at any rate, namely in the obscure adenoma and adenomatosis group of thyroid disorders, as shown by Woodbury (4), a positive epinephrin test reveals the diagnosis whereas the metabolic rate determination, being within normal limits, fails to indicate the presence of a latent hyperthyroidism. I have also seen cases of this kind. On the other hand, in cases of hyperthyroidism of severer grades of toxicity the epinephrin determinations run as a rule remarkably parallel to the curve of increased metabolism (Woodbury). It is possible that in the mild and latent hyperthyroidism of adenoma and diffuse adenomatosis we are dealing with an altered secretion, which has a stimulating effect upon the sympathetic nervous system and is therefore discoverable by a positive epinephrin test, whereas, failing to produce an increased metabolism, it might escape recognition by the metabolic rate determination.

Basal Metabolic Rate Determinations

Means and Aub have made a very extensive study of exophthalmic goiter from the point of view of the basal metabolism. A preliminary outline of their work was made in 1917, followed in 1919 by two papers; the first giving their results in a study of basal metabolism in hypothyroidism, and the second giving their final results in a study of exophthalmic goiter. They used the level of heat production as an index of the effect of medical treatment.

Since the metabolism in hyperthyroidsm is found to be considerably above normal, one should find in cured cases of Basedow's disease rates approaching the normal. This was found by Magnus-

Levy to be true in two cases observed as early as 1895 and has been abundantly confirmed since. When the metabolic rate is high the risk of operation is considerably greater and preliminary treatment with Roentgen-rays is therefore recommended by Means and Aub. Similarly, other measures for preliminary reduction of thyroid activity and of the metabolic rate, therefore, are used, particularly ligation of the thyroid arteries. Although in three out of four cases Du Bois found an increase in metabolism, this has not been the rule. On the contrary, one generally finds an improvement in the clinical condition and a fall in the metabolic rate (Sandiford, 1920). After thyroidectomy, usually though not always, a gradual fall of the metabolic rate coincident with the clinical improvement is observed. Means and Aub used the metabolic rate as an index to the improvement after various forms of therapy, and stated that the results after Roentgen-ray treatment after two or three years were as good as wtih surgery and recommended this treatment as a preoperative measure.

Use of Metabolic Rate Test.

The metabolic rate test can be used with distinct advantage in the study of thyroid disorders, for example, in the early diagnosis of hyperthyroidism, in which case an early increase in the metabolic rate together with other clinical signs and symptoms are very suggestive indeed. The measurement of the heat production gives a very accurate index of the severity of the case and of the degree of hyperthyroidism in a given patient at a given time (Cistrunk, Du Bois, Sandiford). The metabolic rate parallels closely the clinical picture presented by the patient and also the pulse and pulse pressure. The level of the heat production is used as an index of the effectiveness of the medical treatment (Du Bois). The metabolic rate affords great help in determining the proper method of treatment in conditions of over or under-activity of the thyroid and, when taken before, during and after treatment, has shown the value of that treatment, whether beneficial or harmful. Similarly, the basal metabolism forms a guide for governing this dosage in cases of hypothyroidism (Means and Aub). Again, it has been of great help in the differential diagnosis in obscure cases such as the neuroses, neurasthenia and chronic nervous exhaustion which may simulate hyperthyroidism but in which there is no definite increase of the metabolic rate. Again, a high metabolic rate is often a warning against surgical measures (Cistrunk) and in those cases in which the metabolic rate is found to be rising, complete rest in bed is indicated together with preliminary ligations of the thyroid arteries or treatment with the Roentgen-rays. Again, the metabolic rate when frequently determined enables one to follow the management of the exophthalmic case. The surgeon is also helped, for he is enabled to choose more intelligently the type of operation indicated in a given case. He is also able to decide better as to the amount of tissue to be removed and as to when, in a case in which a complete cure is not obtained, a second operation should be done.

There are certain disadvantages due to technique and interpretation in the application of the basal metabolism test in the diagnosis of hyperthyrodism. Thus, unless the greatest care be used to prevent all muscular activity, an increase in basal metabolism always results. A substantial error is introduced if one fails to measure exactly the duration of the observation or allows escape of air or oxygen around the mouth-piece, or if proper care is not taken to correct the volume of oxygen to zero C. and sea level barometric pressure. Again, there are some difficulties of interpretation of the metabolic determinations, for there are some striking exceptions to what are warranted suppositions with regard to an individual case. Thus, occasionally a case clearly active, clinically fails to show any striking increase in metabolism, and vice versa (Saniford, Cistrunk). Furthermore, basal metabolism is found to be increased in some conditions other than hyperthyroidism, as in certain types of endocrin disorders, fever and acidosis. Thus, for example, Means (1905) found an increase in an undoubted case of hypopituitarism showing obesity and a high sugar tolerance. He also found increased metabolism in starvation acidosis as has been found by others in the acidoses of diabetes and in normal subjects on a carbohydrate free diet. Tompkins and Brittingham (1919) describe increased metabolism in some cases of pernicious anemia. These exceptions are difficult to explain.

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Empyema In Infants and Young Children

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IN SELECTING the subject of empyema in infants and young children for the paper this evening, the object is to present the prognosis in the closed method of operation, and to compare the statistics of this method with the statistics of the open method.

Empyema has always been a big surgical problem. Before the introduction of the closed method of operation, it was generally conceded that infants and young children should be operated upon by intercostal incision and drainage. A careful study reveals the surprising fact that, regardless of the age of the child, both at the hospital and in the home, a large number of rib resections have been performed.

The surgical treatment of empyema is a subject which has been much discussed in our medical literature in the last few years. The problem has resolved itself into a debate as to whether the open or the closed method is preferable. The character of operation should be decided in favor of the operation which gives the best comparative mortality. The advocates of rib resection admit in their articles that this type of operation is attended by a surprisingly high mortality (over 25 per cent). Because of the newness of the closed method of operation, clinical data has been carefully compiled and the mortality accurately known.

We have employed the closed operation with negative pressure and irrigation with Dakin's solution. This has been described in the *American Medical Association Journal,* Dec. 20, 1919. The success of this method depends wholly upon faithful coöperation of internes and nursing staff in the post-operative care of these cases. This co-operation alters definitely the period of convalescence and the ultimate prognosis. A graduate nurse instructed in the details of irrigation and aspiration, gives her entire time to this work, thereby insuring uniform and faithful post-operative care. In our series of cases, which includes forty-four adults and twenty-seven children, I have given personal attention and supervision to the treatment.

The children who come to us with empyema present most varied general condition. Unfortunately, some have been ill for several weeks following their pneumonia before a diagnosis of empyema was made. In such cases, the character of fluid in the chest is altered. The fluid is thick and often contains large masses of fibrin. The pleura is thickened and adhesions exist between the thickened pleura and the lung. A weakened and toxic condition obtains. Such conditions naturally prolong the period of convalesence.

A brief description of the operative procedure employed in our cases is as follows. The pus is located by Xray and needle. A stab-wound is made over the selected site. This wound corresponds in size to the size of a number eighteen French catheter and penetrates the entire thickness of the chest wall. A tube is then passed into the cavity through this opening by aid of a trochar and canula. A rubber disc is placed over the tube and cemented to the chest wall. The pus is aspirated. The pleural cavity is immediately irrigated till clear, with normal salt solution followed by Dakin's solution. Hereafter Dakin's irrigations are used every two hours by day and every four hours by night until improvement of the condition of the child permits irrigations at longer intervals. The removal of the tube is determined by two factors, culture of fluid obtained before the first morning irrigation, and second, Xray. The anaesthetic employed in adults was novocaine, in children, nitrous oxide and oxygen.

Following this operation there is an entire absence of shock. There is an immediate removal of the source of toxemia. The temperature becomes normal in about forty-eight hours. Age is no contra-indication. Seven of our cases were between nine and fifteen months of age, and all recovered without any complications. Prognosis with any open operation in these cases is grave. In our cases the prognosis has not been grave.

In this series there has never been a recurrence. Recurrent cases by the open method have been secondarily treated by the closed method with satisfactory results, even though pus were discharging from a small sinus.

The scoliosis which results from empyema occurs to a marked degree from rib resection, and to a very slight degree by the method above described. The scoliosis by the closed method is temporary, and is relieved during the period of convalescence. The scoliosis resulting from resection is more permanent because it is organic.

The mortality in this series of twenty-seven cases in children was two, or seven and four-tenths per cent. In adults, the mortality in forty-four cases was four deaths or nine per cent. Mozingo *(Amer. Jour. Med. Sc.* CLXI, No. 5, No. 590, May, 1921) reports two deaths in forty-five cases, or 4½ per cent, by the closed method. The accepted mortality by the open method as obtained from the literature varies between 25 and 36 per cent. These statistics speak for themselves. The advantage of the closed operation is self-evident.

We have employed the closed method since 1919, and our results have been so satisfactory that we have been encouraged to continue with this method. Besides the great advantage of lowered mortality the operation is clean and comfortable for the patient and devoid of shock.

A Consideration of Tumors of the Frontal Lobes of the Cerebral Hemispheres

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THROUGH successive investigations—clinical and research—by the French, English and German schools, the mental faculties have by elimination been restricted to the prefrontal lobes of the cerebrum, and even more recently this limitation has been concentrated wtihin the left prefrontal lobe by Mills, Weisenburg and others. In 293 cases in which the history was verified by autopsy, extensive laceration of the prefrontal region of the left frontal lobe, was characterized by abrogation of mental power, while more superficial injury manifested itself by mental aberration.

All observers are practically agreed that the functions of the mind; instinct, intelligence, sensibility, or special senses, belong to the cerebrum alone and are unaffected by functional alterations below the tentorium.

Mills believes that in the strictly prefrontal portion of the cerebrum and especially in the left hemisphere, are located the higher psychical functions. He further states that conclusions must be drawn from studies in anatomy, morphology, and comparative physiology.

The tumor, if it is one that produces pain and great cerebral irritation, will cause mental phenomena which are the results of that irritation just as any sort of painful lesion in any part of the body will produce psychic symptoms. The irritation may excite or exhaust the patient or prevent him from fixing his attention and symptoms of this sort are supposed to disprove the idea of special psychic regions of the brain. This, however, is not correct reasoning. An injury to the higher regions will include the lower in its symptomatology, but the lower will not include the higher.

Injury or disease of the posterior association area of the brain, the region of the brain concerned with concrete memories, will give mental symptoms of a special kind, but ones which can be separated from those caused by lesions in any other part of the brain.

The tendency has been to consider the left prefrontal lobe not as the seat of the mind, but as the seat of the higher psychical functions. The mind must be considered as the sum of all the attributes and functions of the brain.

Inasmuch as the posterior portions of the frontal lobes are known to control special motor functions, mental control becomes localized in the prefrontal region, and conclusions from previous investigations point to the seat of such control as residing in the prefrontal region of the left frontal lobe rather than in the right.

It has also been demonstrated that laceration of the left frontal lobe appears to be the only traumatic lesion producing direct derangement of intellectual function, the deeper the laceration the greater the mental derangement. Other observers have reported extensive destruction of the right frontal lobe without alteration of the mental faculties.

It would seem that the present clinical demonstration tends to corroborate the conclusion of the former investigation that: 1. The more absolutely the lesion is limited to the left prefrontal lobe the more positive and distinctive are the symptoms of mental change evidenced by some or all of the following phenomena; mental inactivity, forgetfulness, lack of judgment, decided change in character, irritability of temper and unusual stupidity, inability to concentrate the attention, to think connectedly and continuously, to learn easily, and failure to exercise self-control. 2. The integrity of the mental faculties remains unimpaired in right frontal lesions though they involve destruction of the entire lobe.

Naturally, some opposition has developed to this localization of the intellectual faculties. The chief source of fallacy would seem to be that: 1. Sufficient stress is not placed on the fact that owing to the painful and exhausting character of brain tumors, mental disturbances in the broad sense may occur because of the irritation and exhaustion produced by these lesions. 2. It is not clearly brought out that tumors of the posterior association area or concrete memory field of the brain will necessarily cause some disturbance of the mentality, especially those in the domain of orientation and in the sensorial field. 3. That tumors situated anywhere may cause mental disorders simply through the disturbance or impairment of association which may result. 4. Sufficiently close attention is not paid to the particular point that the psychic disorders caused by prefrontal tumors are especially those of the higher intellectual functions and that in many of the cases studied the normal status of the individual is not properly taken into account; and the fact is not recognized that where tumors are situated in one of the prefrontal regions—especially in the right—the individual's intellectual faculties may be largely preserved because of the integrity of the corresponding region of the other side.

HISTORY OF A CASE.

June 15, 1920. M. P., Greek, aged 35 years, referred to the neurosurgical service by Dr. Behan, of the eye service.

C. C.—Pain in and protusion of the right eye.

P. H.—Attended school until 13 years of age at which time he commenced work and has never been incapacitated up to the present illness. He has had irregular attacks of frontal headache for a considerable period of time, indeterminable as to original onset.

Twenty-two months prior to admission, he had his first convulsive seizure with unconsciousness. He suddenly fell to the floor while at his meal. This attack was described by his wife as comprising coarse movements of the arms and legs with involuntary action of the sphincters. Since that time the spells have been repeated at irregular intervals without aura, the longest period between attacks having been six months, and he has had as many as four in one day. The last seizure was on the day of admission to the hospital and none has ever been followed by paralysis.

Two years prior to admission his wife first noticed a protrusion of his right eye which was painless at that time. Two months preceding admission he had fleeting attacks of deep seated pain in the right eye, sometimes repeated as many as five times in one day, at other times none at all. The patient noticed at this time that his eyes tired readily when focusing on print, and on admission he could read not more than three minutes without resting the eyes.

Six weeks before admission a definite protrusion in the right frontal region was observed. A physician was consulted and according to the patient's statement, it was passed over as of no consequence. At the time he entered the hospital it was found to extend to the mid-line of the forehead. A distinct defect in the bone, probably one-eighth of an inch wide, and one inch long, was palpable over the protrusion and pulsations were elicited at this site. The roentgenograms showed widespread bone absorption with deep, digital, depressions over the right frontal bone. The patient has always been right handed.

Serology—Blood and spinal fluid negative to the Wassermann reaction.

Eye Examination—Report by Dr. Behan, June 15, 1920: Ptosis of right eyelid. Exophthalmos of right eye, which cannot be replaced into the orbit. Opthalmoscopic examination shows bilateral, retrogressive, optic neuritis.

Diagnosis—Tumor of the prefrontal region of the right cerebral hemisphere.

Operation—June 16, 1920. I operated on the patient the day following his admission to the Long Island College Hospital. A large, exploratory bone flap over the right frontal region was reflected. The bone exposure verified the roentgenograms as to extensive absorption of bone, and numerous, deep, digital, depressions resembling the imprint of molar teeth. Extreme dural tension was evident over the entire area of exposure, the consequence of a high grade of intracranial pressure. Reflection of a large dural flap disclosed an irregular tumor mass beneath, the size of an average man's fist, and indicating from the areas of bone absorption a tendency to grow forward. The nodular, non-encapsulated, mass was gradually separated from the adjacent brain tissue and removed, leaving a deep cavity in the right frontal lobe. After hemorrhage was thoroughly controlled, observation of the surrounding brain tissue gave unmistakable evidence of small nodules of the same character of tissue macroscopically, as that removed en masse, and intimately associated with the intact portion of the cerebrum. The bone flap was replaced and the wound closed without complication.

Laboratory Diagnosis—Small round cell sarcoma.

Prognosis—As to complete cure, unfavorable.

The patient has had one application of radium at the Memorial Hospital, Manhattan, without materially influencing his condition in so far as we can determine at this time.

He has had no headaches or pain since recovery from his operation. He has attended to his work for more than a year, goes to market regularly to buy fruit for his store, which he personally manages, and supports a wife and three children.

Careful questioning of his wife and other members of his family on different occasions has always brought the same negative statement concerning any change—even the slightest variation—in his personality during all the years they have known him.

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

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PREVENTIVE MEDICINE AND HYGIENE

PREVENTIVE MEDICINE AND HYGIENE. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; Director of the School of Public Health of Harvard University. Fourth Edition. New York and London, D. Appleton & Co., 1921. 1567 pages, illustrated. 8vo. Cloth, $10.00.

That this book by Dr. Rosenau is recognized as authoritative in the field of Preventive Medicine is evidenced by the fact that this is the fourth edition to appear since the original publication in 1913. Practically every subject within the domain of Preventive Medicine is covered by the author, and to do justice to the various phases in this field has required a large volume of 1500 pages. For nearly every subject a list of references is appended which adds materially to the value of the book.

In each successive edition the author has endeavored to bring the book up to date. In the fourth edition, for instance, many new subjects have been added, the most important of which is a chapter on Public Health Methods and Measures. Under this heading are discussed Relative Values in Public Health; a Public Health Program; Organization of Health Departments; Public Health Education; and similar topics. In their proper places other subjects are treated including Vitamins; Oral Hygiene; Ocular Hygiene; Personal Hygiene, and a Laboratory Course in Preventive Medicine and Hygiene.

New subjects discussed in this edition are Vincent's Angina; Deer Fly Fever; Epidemic Encephalitis, and Psychoneuroses. Other topics have been rewritten, such as Venereal Diseases; Influenza; Trench Fever; Food Poisoning, and Goiter.

If future editions are as well revised as this one, it will continue to serve its purpose as an authority in this field of Preventive Medicine.

A. E. S.

HEALTH EDUCATION AND THE NUTRITION CLASS

HEALTH EDUCATION AND THE NUTRITION CLASS. A Report of the Bureau of Educational Experiments. By Jean Lee Hunt, Buford J. Johnson, Ph.D., and Edith M. Lincoln, M. D. New York, E. P. Dutton & Co., 1921. 281 pages, illustrated. 12mo. Cloth, $3.50.

This is a report of the Bureau of Educational Experiments, an organization which has done yeoman work in the vitally important task of attempting to correct the alarming prevalence of malnutrition in the children of this country. It cannot be too often repeated that undernourishment is rampant in this and practically all so-called civilized countries and its existence is a direct challenge or rather indictment of the feeding and rearing of the recent generation of children.

There is admittedly something wrong with a system which allows such appalling conditions to prevail and this book gives an outline of the methods which have been successful in dealing with a large group of undernourished children.

The nutrition class and health education are valuable weapons in the war against malnutrition, and the only sad part of the story is that they can only partly solve the problem, for they really only attack malnutrition after it is already established. In the opinion of the reviewer the treatment of malnutrition must begin with prenatal instruction of the mother, must continue through infancy, the runabout age, the preschool age, the school years, and through adolescence to full adult maturity.

For those interested in the establishment and conduct of classes and all other means of correcting existing conditions of malnutrition, this valume will be of invaluable assistance, and too much praise cannot be bestowed on its authors, and the organization which they represent, for their outstanding efforts and brilliant results.

W. H. DONNELLY.

ELEMENTS OF FOLK PSYCHOLOGY

ELEMENTS OF FOLK PSYCHOLOGY. Outlines of a Psychological History of the development of Mankind. By Wilhelm Wundt, Authorized translation by Edward Leroy Schaub, Ph. D. (Revised Edition). London. George Allen & Unwin, Ltd.; New York, The Macmillan Co., 1921. 532 pages. 8vo. Cloth, $6.00.

This remarkable book is an epitome of Wundt's original work in "Völkerpsychologie," which was contained in five large volumes of over three thousand pages; it was first published in 1912, the present being a revised edition. It owes its appearance to Wundt's belief that there are certain mental phases which may not be interpreted satisfactorily by any psychology that restricts itself to the standpoint of individual consciousness; the assumption of the reality of collective minds is therefore fundamental to the conclusions of the present volume and the author aims to present merely a descriptive account of human development. It is an attempt to answer the question as to what beliefs and practices actually prevailed at the various stages of human development and what psychological explanation may be given of them. Wundt, in his study of human progress divides its development into four great periods, which he has denominated primitive man, the totemic age, the age of heroes and gods and the humanitarian age. He states that it is often difficult to sharply delimit these periods, especially in the more advanced stages, as the processes are really continuous, and the life of the individual does not fall into distinct perods. Just as childhood, youth and manhood are stages in a continuous growth, so also are the various eras in the development of peoples. By the term primitive man, he connotes the lowest grade of culture, particularly of mental culture. Of the second period in the development of civilization, it may be said that in many respects it represents a newly discovered world. The term totemic age owes its origin to the purely American word "totem." Totemism represents a circle of ideas within which the relation of animal and man is the reverse of that which obtains in present-day culture. In the totemic age, man does not have dominion over the animal, but the animal rules man. The souls of the dead dwell within it; it thus becomes the ancestor of man. Its flesh is prohibited to the member of the group called by its name, or on ceremonial occasions, the eating of the totem animal may be a sanctifying cult activity. No less does the totemic idea affect the organization of society, tribal division, marriage and the family. Yet the elements that reach over from the thought of this period to later times are but scanty fragments. Such, for example, are the sacred animals of the Babylonians, Egyptians and other ancient cultural peoples, the prophetic significance attached to the qualities or acts of animals and of magical ideas connected with particular animals.

The totemic culture is succeeded, through gradual transitions, by a third period, which Wundt terms the age of heroes and gods. Initial steps toward the latter were already taken during the preceding period, in the development of a rulership of individuals within the tribal organization. This rulership, at first only temporary in character, gradually became permanent. The position of the chieftain, which was only of minor importance in the totemic age, gained in power when the tribal community, under the pressure of struggles with hostile tribes, assumed a military organization. Society thus developed into the State. War, as also the guidance of the State in times of peace, called out men who towered far above the stature of the old chieftain, and who, at the same time, were sharply distinguished from one another through qualities that stamped them as typical personalities. In place of the eldest of the clan and the tribal chieftain of the totemic period, this new age gave rise to the hero. The totemic age presented only fabulous narratives which were myths dealing largely with animal ancestors who had been instrumental in the introduction of fire, who had taught the preparation of food, etc. The hero who was exalted as a leader in war belonged to a different world, as reflected in the heroic song or epic. The heroes of Homer were still essentially tribal chieftains, but the enlarged field of struggle, together with the magnified characteristice which it developed, exalted the leader into a hero. The State originated about the same time, which displaced the more primitive tribal institutions of the preceding period. With national heroes and with States, national religions came into being; and since these religions no longer directed the attention merely to the immediate environment, to the animal and plant world, but focusssd it primarily upon the heavens, there was developed the idea of a higher and a more perfect world. As the hero is the ideal man, so the god becomes the ideal hero, and the celestial world the ideally magnified terrestrial world .

This era of heroes and gods was finally succeeded by a fourth period. A national State and a national religion do not represent the permanent limits of human striving. National affiliations broaden into humanistic associations. Thus there begins a development in which we of the present still participate; it cannot therefore be referred to otherwise than as an age that is coming to be. Wundt's development of the above outlined theme is wonderfully fascinating to one who is interested in the history and psychology of civilization; the close thinking and the sound logic sustained throughout the work show the workings of a master mind. The excellent American translation is by Edward Leroy Schaub of Northwestern University. The book cannot be too strongly recommended to those who are interested in the subject matter.

F. C. E.

THE LAWS OF SEX

THE LAWS OF SEX. By Edith Houghton Hooker. Boston, Richard G. Badger, 1921. 373 pages. 12mo. Cloth, $5.00.

This work contains much that is old on this very ancient vexed question and also some ideas that are rather new.

The solution of the problem of the Social Evil is considered to rest primarily on a reorganization of the sexual life of the race in accordance with the natural laws of sex.

The first and simplest approach to the problem lies, says Mrs. Hooker, through the education of children, teaching them the simple truths of sex physiology, with music, gymnastics, manual training and natural science to replace the monotony of the ordinary curriculum. Education should be coeducational from kindergarten through college and the professional school.

Then the general public school should be educated with regard to the nature and prevention of venereal diseases, and the single standard of morals for both the male and the female should be instituted. Divorce on the ground of incompatibility in the author's opinion is justifiable and advisable.

Venereal diseases should be placed on the same basis as the other communicable dangerous diseases, and licenses to marry should be refused those quarantined by the Board of Health for venereal disease. Birth control is sanctioned and castration recommended as a penalty for rape.

The whole subject is handled in a way which bespeaks a thorough scientific knowledge of the subject, and the recommendations contained in it merit serious consideration although they cannot all be agreed with without argument. The book is a valuable addition to the literature of an all important field of medicine and public health, but it cannot be said really to offer a simple or easy solution of an age long controversy.

X-RAY AND RADIUM IN THE TREATMENT OF DISEASE

X-RAYS AND RADIUM IN THE TREATMENT OF DISEASES OF THE SKIN. By George Miller MacKee, M. D. Philadelphia and New York, Lea & Febiger, 1921. 602 pages, illustrated with 250 engravings. 8vo. Cloth, $9.00.

As far as the reviewer knows this is the first book of its kind to appear in the English language. In 1903, Pusey and Caldwell published their well known work on "Roentgen Rays in Therapeutics and Diagnosis." This book differs from MacKee's in many essentials. The science of X-ray was still young and its possibilities and dangers as a therapeutic agent were not clearly understood nor appreciated. This new work is the summing up of all that has gone before and is the written result of mature judgment after years of hard study and ripe experience.

The first part of the book, 166 pages, is given to the discussion of the history of X-ray, the physical characteristics, description of apparatus and equipment, measuring X-ray doses, technic, etc. Then follows four chapters, 102 pages, on radium and its comparative effects with X-ray. A chapter each is given to the clinical effect of X-ray and radium on the skin, radiodermatitis, idiosyncrasy, the action of the rays on pathological tissue and general therapeutic considerations. The remainder of the book, except the last chapter, is devoted to the discussion of the X-ray and radium in the treatment of skin diseases. The last chapter deals with the medicolegal relations of radiotherapy.

The diseases discussed are only those where experience has proved that radiation will accomplish good results, and in other conditions that earlier were considered to be amenable to this form of treatment, but which time has taught that the dangers far outweighed the good effects, as for instance hypertrichosis. In those diseases that are known to be helped and cured by radiation, like tinea tonsurans, malignant new growths, etc., the procedure is carefully explained, the expected results are emphasized and the dangers and pitfalls honestly pointed out. Each chapter in the therapeutic section is filled with words of caution and none of them show any evidences of untrained enthusiasm, but each is couched in restrained terms by one who knows what he is writing about and who has learned his subject after long and careful research.

There is perhaps no one in the United States better qualified to write on the treatment of skin diseases by X-ray and radium than Dr. MacKee, for he combines the mature knowledge of a skilled dermatologist and an ultra-proficient radiotherapist; this unusual combination has made it possible for him to produce a work of inestimable value, not only for the "beginner," but for the trained dermatologist as well and more than all for the radiographer who occasionally is called upon to administer X-ray or radium in the treatment of skin disease. All who are interested in radiotherapy should possess himself of a copy of the book. Most of the illustrations are from the author's own collection and are beautifully executed. The binding, typography, paper and press work are of the usual Lea and Febiger style.

J. M. W.

EPIDEMIOLOGY AND PUBLIC HEALTH

EPIDEMIOLOGY AND PUBLIC HEALTH. A Text and Reference Book for Physicians, Medical Students and Health Workers. By Victor C. Vaughan, M. D., LL.D., assisted by Henry F. Vaughan, M. S., Dr. P. H. and George T. Palmer, M. S., Dr. P. H. In Three Volumes. Vol. I, Respiratory Infections. St. Louis, C. V. Mosby Company, 1922. 688 pages. 8vo. Cloth, $9.00.

This, the first volume of three, the others of which are to be published in the future, deals with the infectious diseases affecting the respiratory tract. Each disase is considered carefully.

The author has painstakingly given the epidemic history of each of the diseases discussed, has gone extensively into the symtomatology and pathology, has drawn fully from his own wide experience in epidemiology, and has given his conclusions regarding the control of each of these diseases. The text is clear and forceful. The author's conclusions are logical and scientific. The many graphs and tables add to the clearness of the text.

To the publishers credit must be given for the splendid execution of the author's work.

One must carefully read this work if one is to appreciate the extreme care with which it has been prepared. There is nothing about it which can be criticized adversely. It is the book to which those interested in public health have looked forward for years. We anxiously await the appearance of the second and third volumes which cannot be better than the first, but if they are as good and cover the entire field in as remarkable a manner as does the first its field, it may be said unquestionably that the best work in epidemiology ever publihsed is at our command. E. H. M.

BENIGN STUPORS

BENIGN STUPORS. A study of a New Manic-Depressive Reaction Type. By August Hoch, M. D., New York, The Macmillan Company, 1921. 284 pages. 12mo. Cloth, $2.50

Those who had the pleasure of working under Dr. Hoch will appreciate the amount of work and study which this volume represents. Dr. MacCurdy who was intimately associated with him has done his work as editor very well. It is always difficult to satisfactorily arrange the work of any author posthumously.

Benign stupors have always presented a difficult diagnostic problem and any light which enables one to differentiate them from the malignant or organic stupors will certainly be welcomed. The cases have been presented with sufficient detail to enable one to grasp the entire mental picture presented, yet boresome details have been left out. Benign and malignant stupors are presented for consideration and diagnostic differences pointed out.

Typical cases of deep stupor were first examined and it was found first that poverty of affect was the dominant symptom. The second important symptom was inactivity with at times catalepsy alternating at times with negativism. Wetting and soiling are due to negativism. A constant feature of these stupors is a thinking disorder with amnesia for this period on recovery. The ideational content is chiefly occupied with the theme of death. In some cases impulsive attempts may manifest themselves. Physically a low fever, skin and circulatory changes are manifest. A loss of weight and absence of menstruation is the rule. This reaction seems to be chiefly a youthful one, the majority of the cases occurring between the ages of 15 and 25 years. It was found that most of the cases occurred among the lower classes.

The picture of deep stupor was not constantly present during the entire psychosis. There were phases when "stupor reaction" consisted of the above symptoms in slighter degree. The most fundamental characteristic of the stupor symptoms was the apathy, which is shown by the lack of feeling, loss of energy and an absence of the normal urge of living. It is quite different from the emotional blocking of retarded depression where the patient indicates by his manner that he is really suffering. There is present in addition mental and muscular inactivity.

Psychologically stupor is looked upon as a regressive reaction with a return to infantile tendencies. Effort is abandoned while the ideational content expresses a desire for retreat from the world, in death.

The treatment of these states is taken up in detail.

This work represents a distinct contribution to psychiatry and more of the same kind will cause psychiatry to advance to the same plane which has been attained by the other medical sciences. S. R. LEAHY.

PRACTICAL PHYSIOLOGICAL CHEMISTRY

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By Philip B. Hawk, M. S., Ph.D., Professor of Physiological Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Seventh Edition, revised. Philadelphia, P. Blakiston's Son & Co., 1921. 675 pages, illustrated. 8vo. Cloth, $5.00. 12mo. Cloth, $4.50.

This new volume of 675 pages is certain of a most welcome reception by the physician as well as the laboratory worker and the student of biochemistry.

This new edition has been completely revised and brought up to date. In the chapter on "Blood Analysis" the author has included in its entirety the excellent analytical system of Folin and Wu. No course is complete without a consideration of these thoroughly up to date methods.

The chapter on "Respiration and Acidosis" considers in a thorough manner the recent advances in these important subjects. The chapter on urine analysis includes the qualitative and quantitative methods with a discussion on the method of preparation of normal and standard solutions.

Considerable space is devoted to the subject of vitamines under the chapter of metabolism and the demonstration of dietary deficiences.

The volume is most freely illustrated with colored plates and figures and has a valuable addition of twenty pages devoted to the preparation of solutions and reagents.

The index is exceptionally complete.

HENRY M. FEINBLATT.

THE BLOOD SUPPLY TO THE HEART

THE BLOOD SUPPLY TO THE HEART IN ITS ANATOMICAL AND CLINICAL ASPECTS. By Louis Gross, M. D., C. M. New York, Paul B. Hoeber, 1921. 171 pages, with 29 full-page plates and 6 text illustrations. 8vo. Cloth, $5.00.

The researches of Gross as reported in his book place an entirely new light on the vascular supply of the heart. We were led to believe from previous study that the coronary arteries were end arteries, and that the valves normally were vascular. The painstaking injection experiments by a special technique developed by the author conclusively prove that such is not the case. The practical application of vascularized valves and the incidence and predisposition to endocarditis is clearly demonstrated. The illustrations and X-ray reproductions of injected vessels clearly prove the author's points. It is a book of immense value to anatomists, pathologists, cardiologists and clinicians.

A MANUAL OF SELECTED BIOCHEMICAL METHODS

A MANUAL OF SELECTED BIOCHEMICAL METHODS, as Applied to Urine, Blood and Gastric Analysis. By Frank P. Underhill, Ph.D., Professor of Pharmacology and Toxicology, School of Medicine, Yale University. New York, John Wiley & Sons, Inc., 1921. 232 pages. 8vo. Cloth, $3.00.

This small manual of 232 pages represents the course in biological methods given by the author in the Yale School of Medicine.

While the author makes no claim of originality for any of the methods which he has compiled from the current journals and recent text books, the arrangements and selection of the material is definitely valuable.

Under Part III devoted to methods for the analysis of blood, Haldane's and Henderson Smith's method of gas analysis are described. Here also are described the recent methods for the determination of the metals, calcium, magnesium, phosphorus, sodium, potassium and iron.

Henry M. Feinblatt.

THE SWEDISH NATION IN WORD AND PICTURE

THE SWEDISH NATION IN WORD AND PICTURE, together with short summaries of the contributions made by Swedes within the field of Anthropology, Race-Biology, Genetics and Eugenics. By H. Lundborg, M. D., and J. Runnstrom, D.Ph. Stockholm, Hasse W. Tullberg Co., 1921. 128 pages, plates. Folio. Paper, $5.00. (On sale by the Scandinavian Sales Co., 516 Third Avenue, New York.)

This book is chiefly made up of summaries of the contributions made by Swedish professors in the fields of Anthropology, Race-Biology, Genetics and Eugenics.

The first part deals with the early immigration and emigration of the Swedes. The early Swedes have been traced to 2,000 years before the commencement of the Christian era.

A very interesting article appears on the disease, myoclonus epilepsy, which occurs only in a small county of Sweden. It is demonstrated that the disease is inherited in accordance with Mendel's law.

The Swedish legislation is constantly working for race betterment through better marriage laws, undesirable individuals can be hindered not only by prohibiting marriage for them, but also by means of segregation and sterilising.

The latter part of the book describes the different types, Finns, Lapps, Walloons and Swedes, which make up the population of Sweden. There are many valuable plates to illustrate the different types.

E. O.

ESSENTIALS OF LABORATORY DIAGNOSIS

ESSENTIALS OF LABORATORY DIAGNOSIS. By Francis Ashley Faught, M. D. Seventh Revised and Enlarged Edition. Philadelphia, F .A. Davis Co., 1921. 523 pages, 78 illustrations, 11 plates. 8vo. Cloth, $4.50.

The volume is divided into fourteen sections as follows: Section 1, The Microscope; 2, The Sputum; 3, Clinical Hematology; 4, Spectroscopic Examinations; 5, Newer Methods of Blood Examination; 6, The Sphygmomanometer and Sphygmography; 7, Animal Parasites; 8, Determinations of the Functions of the Stomach; 9, The Feces; 10, The Urine; 11, Body Fluid; 12, Human Milk; 13, Bacteriologic Methods; 14, Serodiagnosis.

An appendix of forty-two pages describes briefly the preparation of stains, diluting fluids, normal and decinormal solutions, indicators and standard solutions. Many tables are included such as atomic weights, metric weights and measures, comparison of thermometric scales, Bangs' table of copper reduction equivalents.

The volume makes no claim as to completeness and the author describes those methods used in his own laboratory or those selected as requiring less apparatus and technique.

Henry M. Feinblatt.

SANITARY ENTOMOLOGY

SANITARY ENTOMOLOGY; THE ENTOMOLOGY OF DISEASE, HYGIENE AND SANITATION. Edited by Wiliam Dwight Pierce, Ph. D. Boston, Richard G. Badger, 1921. 518 pages, illustrated. 8vo. Cloth, $10.00.

This volume is composed of a series of lectures dealing with entomological problems from the standpoint of municipal, industrial and household problems. It contains the most recent information on the relation of insects to disease. The various articles have been prepared by various experts, all of whom are connected with the Government service.

Not only is the relation of disease to insect life considered in careful detail, but the life histories of various insects are also carefully covered. The chapters devoted to the practical discussions of the control of disease-carrying insects are particularly well written.

The book is not only valuable to the student of preventive medicine in the human body, but is also of great value to the veterinarian and others interested in stock. The index is very complete; the illustrations are many and good. Complete lists of references are also given, so that one who wishes to look up further any particular phase of the subject may readily do so.

MANUAL OF PRACTICAL ANATOMY, PART II.

MANUAL OF PRACTICAL ANATOMY. A Guide to the Dissection of the Human Body. By Thomas Walmsley, Professor of Anatomy, Queen's University, Belfast. Part II, The Thorax and Abdomen. London and New York, Longmans, Green & Co., 1921. 233 pages, illustrated. 8vo. Cloth, $3.25.

It is a pleasure to review the second part of Dr. Walmsley's disesctor on the thorax and abdomen. He keeps up his thorough work and uses as few words as possible to make clear his instructions. This will be a joy to all students using his works in the dissecting room. The allotment of the number of days to the study and dissection of each part is very well thought out. A careful following out of his schedule will lay the foundation of a firm knowledge in this line.

His work on the perineum is very good. This difficult layout of the parts is shown in true order and made clear as one dissects. The order of dissection in the abdomen, with the instructions as to each organ, is as it should be. The relation of the different organs to one another is precise. The blood supply is minutely brought forth. The gross anatomy of the abdominal contents is, in each individual organ, plainly described. What is said about the abdominal cavity is true as to the thoracic.

The text on the soft tissues of the trunk and that of the hard parts is all that could be asked.

The printing and makeup of the book is good.

Norman Philip Geis.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

DISEASES OF THE EYE. A handbook of Ophthalmic practice for students and Practioners. By George E. de Schweinitz, M. D., LL. D. Ninth Edition, reset. Phila. and London, W. B. Saunders Company, 1921. 832 pages, 415 illustrations and 7 plates. 8vo. Cloth, $10.00.

VITAMINES; ESSENTIAL FOOD FACTORS. By Benjamin Harrow, Ph. D. New and enlarged edition. New York, E. P. Dutton & Co., 1922. 261 pages. 12mo.

REPORT OF THE PRESENT STATE OF KNOWLEDGE CONCERNING ACCESSORY FOOD FACTORS (VITAMINES). Compiled by a Committee appointed jointly by the Lister Institute and the Medical Research Committee. London, Published by His Majesty's Stationery Office, 1919. 107 pages, illustrated. 8vo. Boards, 1.25. (Reprinted 1922 by the Vitamin Research Laboratories, Westfield, Mass.)

AN INTRODUCTION TO THE STUDY OF THE PROTOZOA WITH SPECIAL REFERENCE TO THE PARASITIC FORMS. By E. A. Minchin, M. A., Ph. D., F. R. S. Second Impression. London, Edward Arnold; New York Longmans, Green & C., 1922. 520 pages, illustrated. 8vo. Cloth $8.50.

TUBERKULOSE-BIBLIOTHEK. Herausgegeben von Prof. Dr. Lydia Rabinowitsch. Nr. 7. Partigenforschung und-Therapie von Drs. Max Pinner, H. Grau und H. Schulte-Tigges. Leipzig, J. A. Barth, 1922. 32 pages. 8vo. Paper, Mk. 10.

PNEUMONIA. By Frederick Taylor Lord, A. B., M. D. Cambridge, Harvard University Press, 1922. 69 pages. 12mo. Cloth, $1.00. (Harvard Health Talks.)

AN ESSAY ON THE PHYSIOLOGY OF MIND. An interpretation Based on Biological, Morphological, Physical and Chemical Considerations. By Francis X. Dercum, A. M., M. D., Ph. D. Philadelphia and London, W. B. Saunders Company, 1922. 150 pages. 12mo. Cloth, $1.75.

THE VITAMINS. By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, U. S. Department of Agriculture. New York, The Chemical Catalog Company, Inc., 1922. 273 pages, illustrated. 8vo. Cloth, $4.00. (American Chemical Society Monograph Series.)

WHAT IS SOCIAL CASE WORK? An Introductory Description. By Mary E. Richmond, Director, Charity Organization Department, Russell Sage Foundation. New York, Russell Sage Foundation, 1922. 268 pages. 12mo. Cloth, $1.00.

THE TREAMENT OF COMMON FEMALE AILMENTS. By Frederick John McCann, M. D. London, Edward Arnold & Co., New York, Longmans, Green & Co., 1922. 152 pages. 8vo. Cloth $3.00.

DIE GESCHLECHTSKRANHEITEN. Ihr Wesen, ihre Erkennung und Behandlung. 2. Auflage. Von Dr. Karl Zieler. Leipzig, Georg Thieme, 1922. 184 page,s ilustraetd. 12mo. Cloth. Mk. 90.

MEDIZINISCHE PSYCHOLOGIE. Von Dr. Ernst Kretschmer. Leipzig, Georg Thieme, 1922. 305 pages. 12mo. Paper. Mk. 118.

LONG ISLAND MEDICAL JOURNAL

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Modern Methods of Urological Diagnosis*

N. P. Rathbun, M. D.
Brooklyn, New York.

I DOUBT if there is any branch of surgery which more nearly approaches an exact science than does diagnostic urology. The past two decades have marked really marvelous advances along this line. The laboratory, the X-ray, the cystoscope, pyelography, etc., have placed at our disposal ways and means of making a complete and accurate diagnosis in practically every case. Such facilities also place upon us the very definite responsibility of making such a diagnosis. It should indeed be a rare occasion for any patient to come to the operating room with any essential point in doubt. It is also a fact that a complete urological examination should result in a rather more comprehensive diagnosis than might be required in surgical lesions of other parts of the body. It is not enough that we have an accurate knowledge of the diseased organ together with a general picture of the rest of the body economy: we must in addition to this have an accurate knowledge of the exact condition of every part of the entire urinary tract. We have the means of determining these facts and we must assume the responsibility.

There has always been one objection to the complete urological examination—not a serious objection, but nevertheless something to be considered, and that is the fact that it is cumbersome, time- consuming, and for the patient who is paying his way, expensive. The poor chap with a renal calculus has been, and I fear often is yet, sent from the general practitioner to the laboratory, back again to his doctor, then to the cystoscopist, then to the radiologist, and then back to the cystoscopist who at this stage of the proceedings may call up the family doctor and suggest that one more cystoscopic examination be made at the office of the radiologist for the purpose of elucidating certain doubtful points. In the meantime the patient fondles his flattening purse and hums to himself that old song entitled, 'The mother was chasing her boy 'round the room,' which contains forty-seven verses all alike .

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*Read before the Brooklyn Surgical Society January 5, 1922.
From the Urological Service, Brooklyn Hospital.

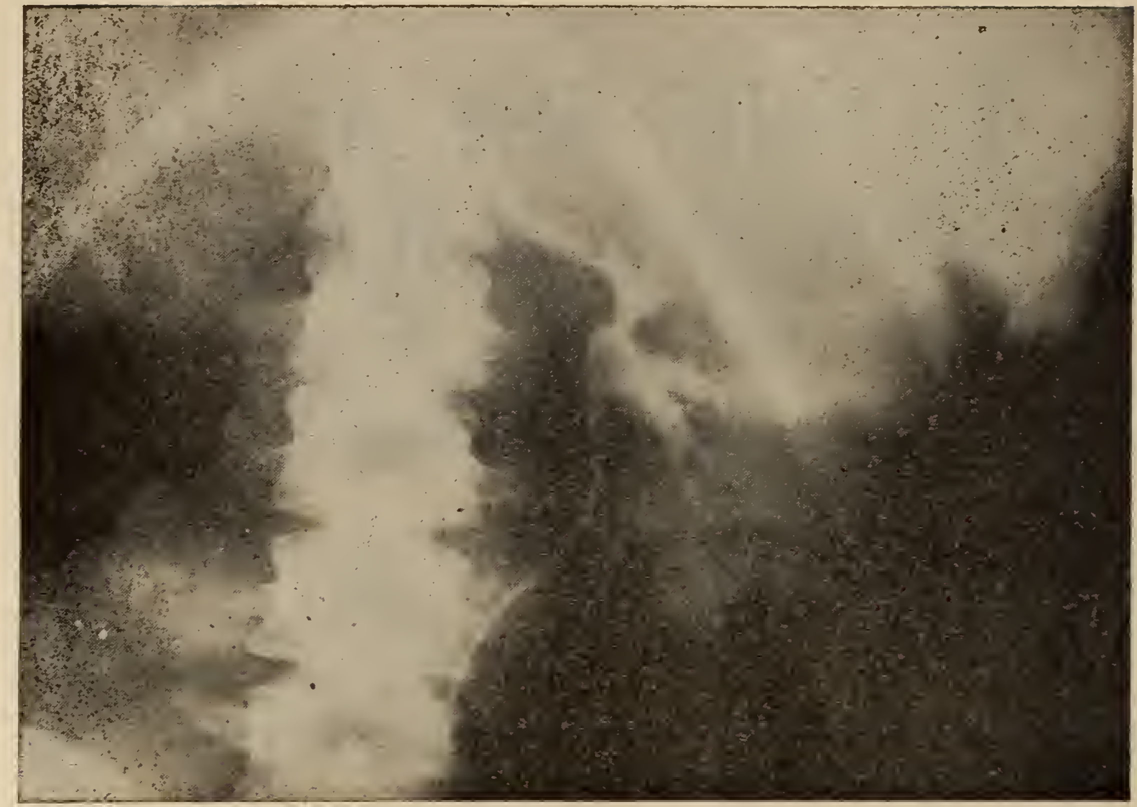

Fig. 1. Normal kidney pelvis. Note size of pelvis, the three major calyces, and minor tapering out to fine points

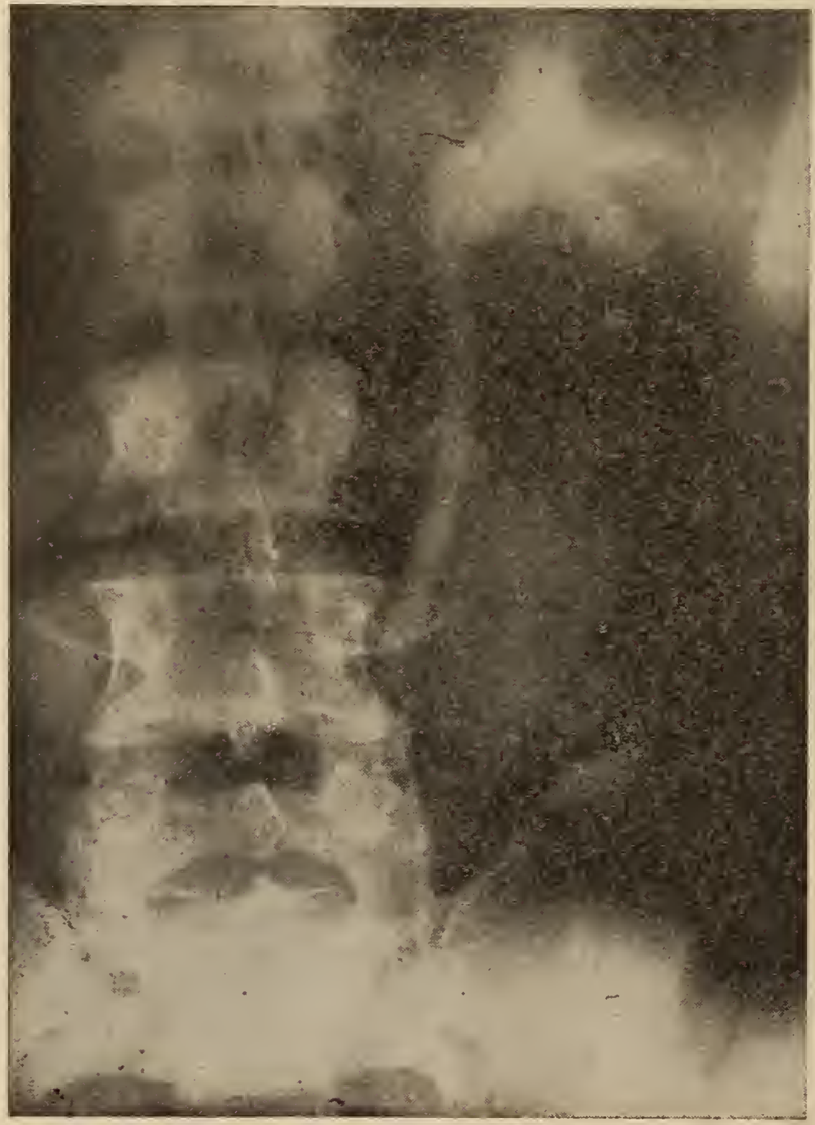

Fig. 2. Hydronephrosis and stricture of the ureter. Note stricture opposite fourth lumbar vertebra, and above the dilated ureter and kidney pelvis.

For several years now we have followed a routine in our clinic at the Brooklyn hospital which aims at a diagnosis in one sitting. While of course we are not always successful and some of our patients have to be subjected to repeated examinations before a diagnosis is established, yet we are successful in a sufficient number of cases, and in all cases we are able to obtain such a fund of information that we are well satisfied with the method.

No claim is made for anything new or original about the whole procedure with the possible exceptions of the simple grouping of several examinations at one sitting. Yet the advantages, in my opinion, are so obvious that I have been surprised in visiting other clinics to find that they were not following the same general plan. Lately I believe, a number of clinics are doing this.

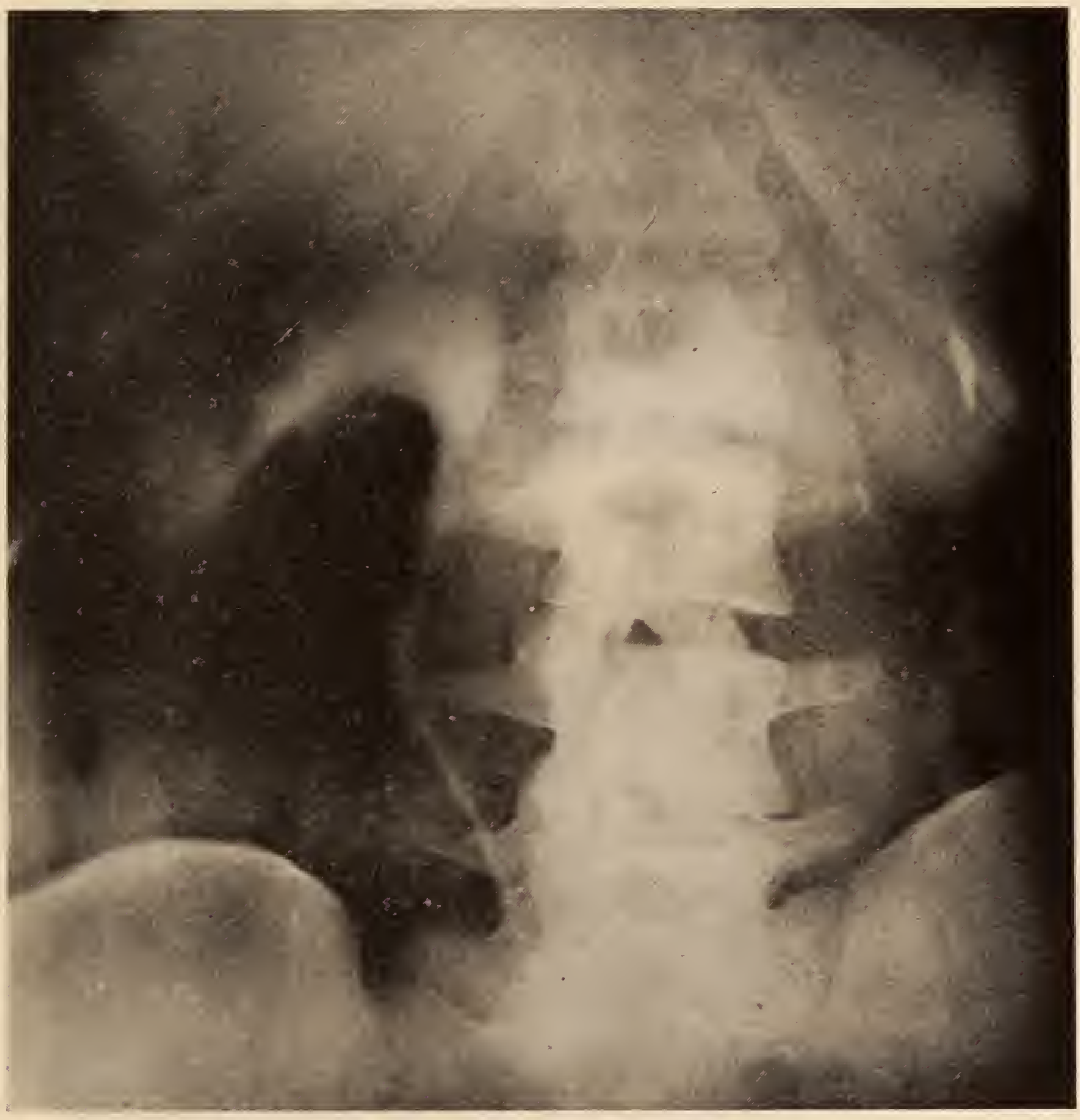

Fig. 3. Hydronephrosis and angulation of the ureter. Note constriction opposite fourth lumbar vertebra, and dilated kidney pelvis. Ureter not yet dilated.

All cases in which the history and general physical findings suggest the possibility of a lesion in the kidney or ureter are examined in the hospital proper, not in the office or dispensary. Private patients, particularly women, are advised to remain in the hospital for two or three days. Dispensary cases come prepared for their examinations, return to their homes immediately after, and report to the clinic a few

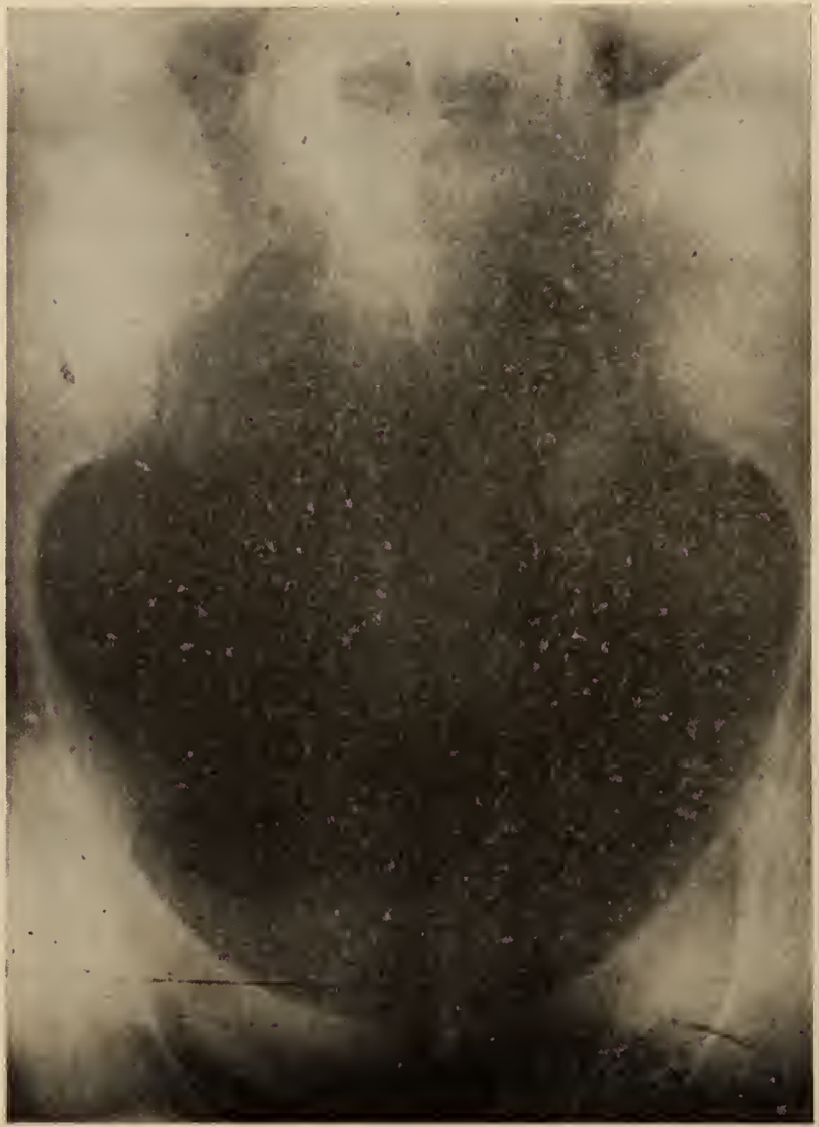

Fig. 4. Ureter calculus. Note catheter looped around calculus. This illustrates one of the cystocopic methods of removing these stones, using a limber catheter and twisting it as it is introduced.

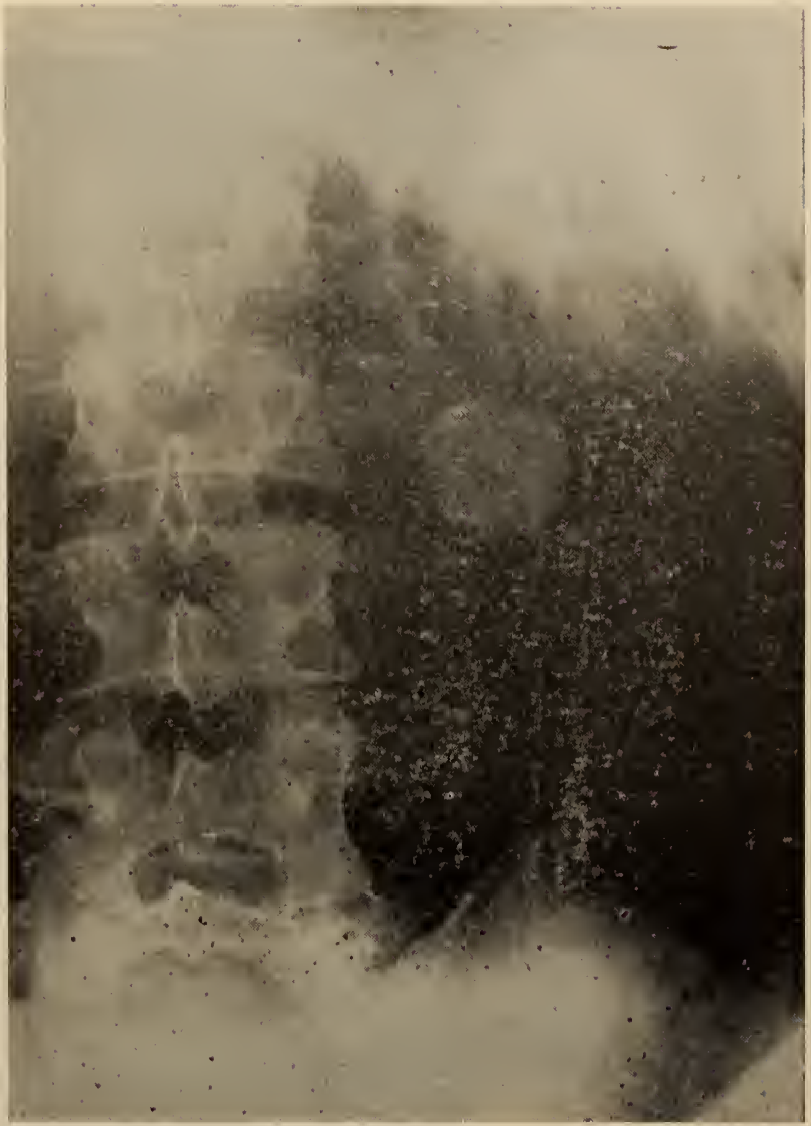

Fig. 5. Has every appearance of a large stone in the kidney pelvis. Symptoms suggested such a diagnosis.

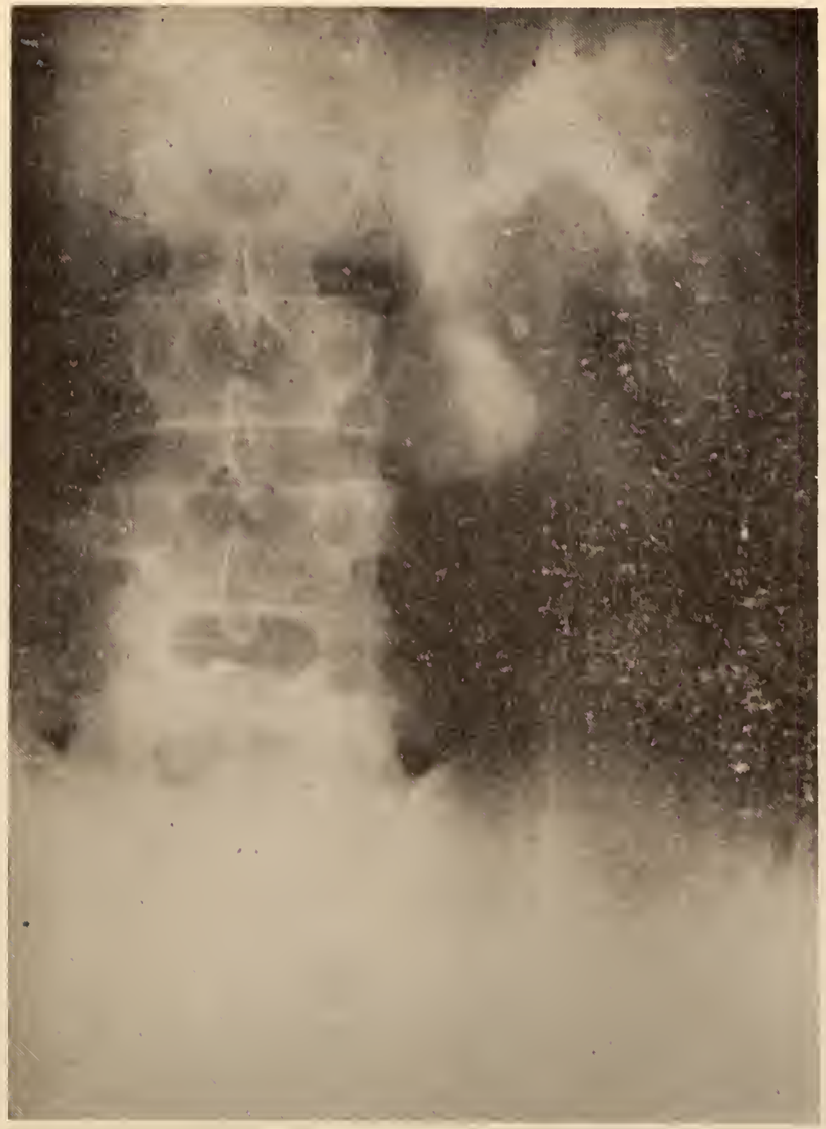

Fig. 6. Same case as Fig. 5, showing the shadow well below kidney pelvis and outside ureter. Diagnosis: Calcified gland, intraperitoneal. This illustrates most emphatically the importance of checking up plain pictures.

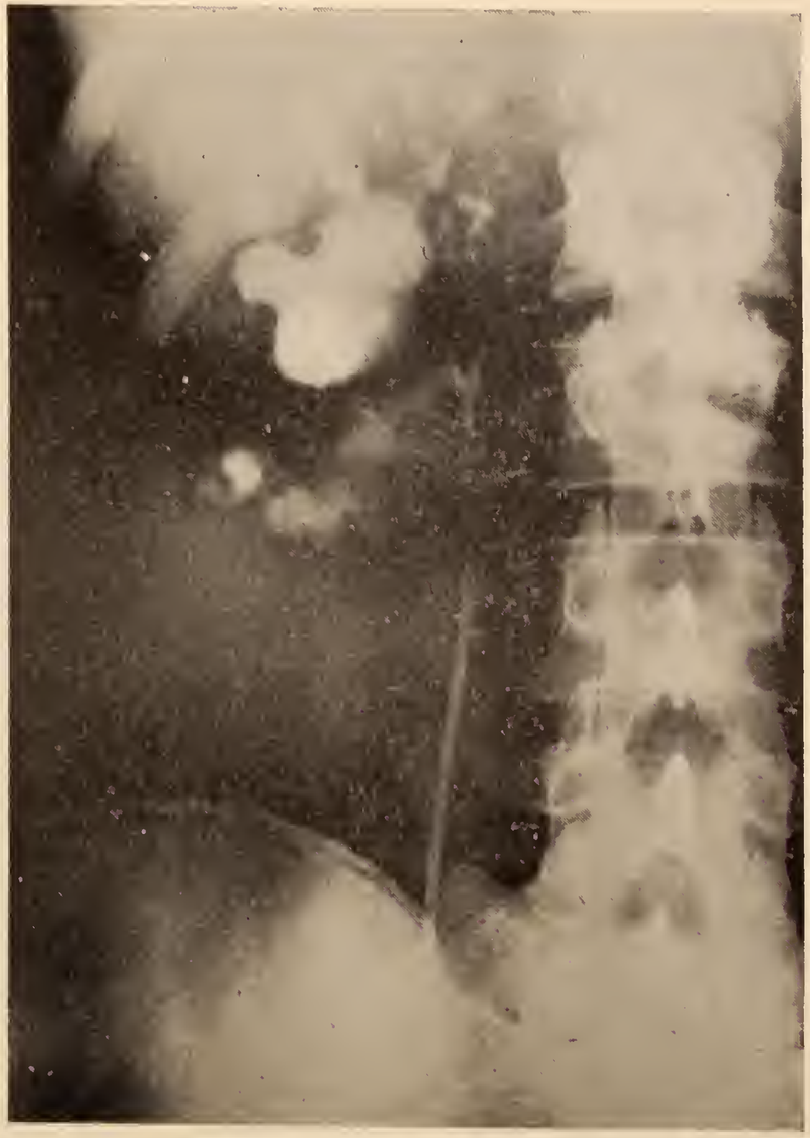

Fig. 7. Pyonephrosis. Large shadow represents irregular kidney pelvis with no calyces. Smaller shadows are abscess cavities scattered throughout renal pelvis.

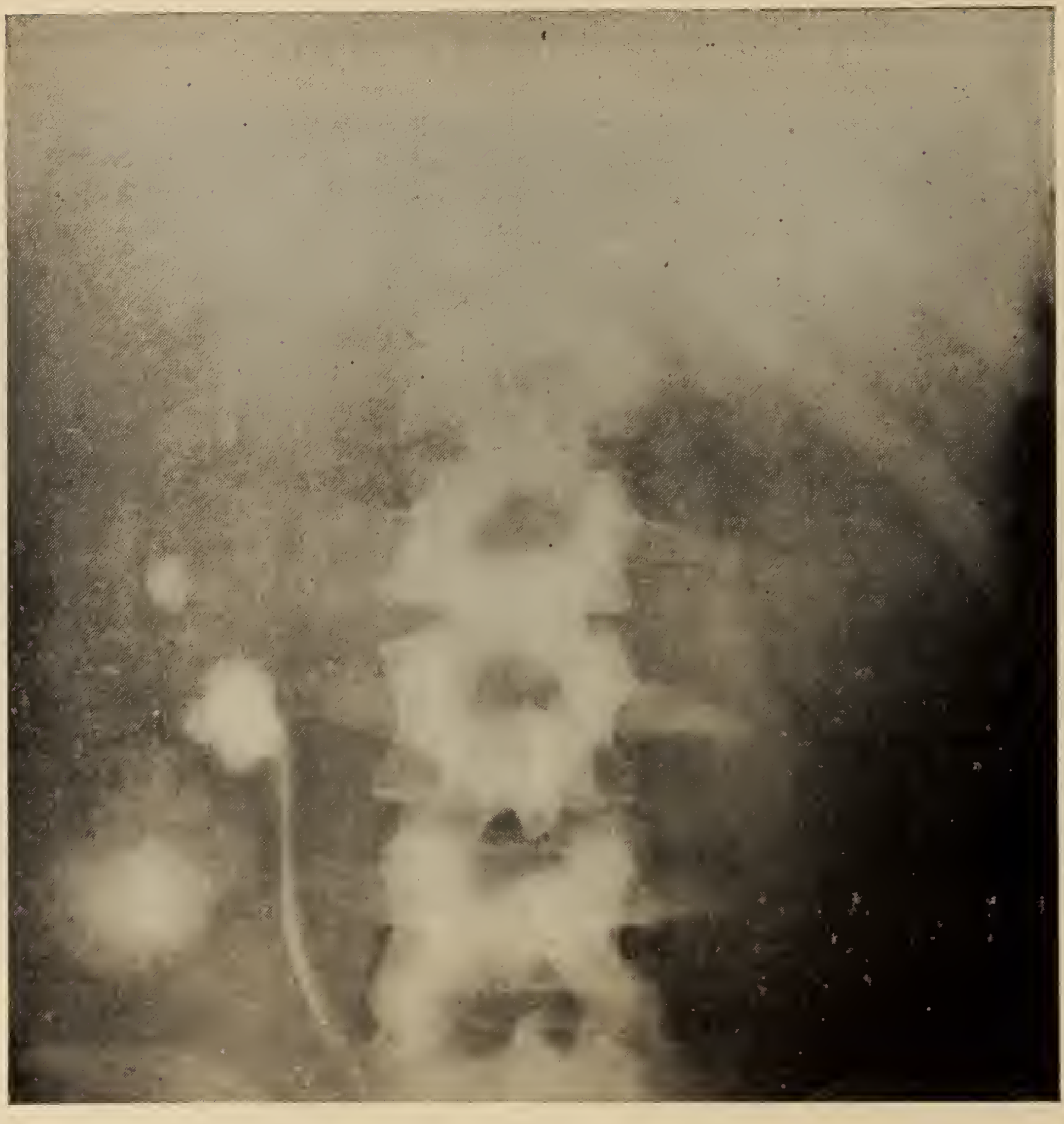

Fig. 8. Intra-renal hydronephrosis with calculus. Dense shadow at top of catheter is a calculus entirely filling small pelvis. There are numerous small calculi. Large shadow at lower pole of kidney is bromide which has collected in a pool at bottom of kidney, which has been converted into a sac. Pelvis itself not enlarged. Hence, intra-renal hydronephrosis.

days later. Our cystoscopy room immediately adjoins the X-ray room. This I believe, to be essential.

The method of procedure is briefly as follows. The patient is given two ounces of castor oil one hour after supper and a soap suds enema upon awakening the following morning. Unless a general anesthetic is to be employed and it very rarely is, he eats his usual breakfast. One hour before the time set for the examination he is requested to drink one pint of water, and he is also requested not to urinate. We are now ready for our examination. In the female we anesthetize the urethra and trigone with pledgets of cocaine, 10 per ct. A cystoscope is passed into the bladder and a specimen of bladder urine is obtaind through the cystoscope and collected in a sterile tube. This specimen is sent to the laboratory for routine chemical and microscopic examination and also for culture and animal inoculation. The bladder is now irrigated with a 1-5000 solution of oxycyanide of mercury solution, also through the sheath of the cystoscope, turn on the light and a slow stream of the irrigating fluid. By watching the empty bladder gradually fill up we get an excellent view of those parts of the bladder wall that are rather difficult to see in a distended bladder. We can also note infiltration or lack of flexibility which might exist at the base of tumors. Having thoroughly inspected the bladder and noting any abnormalities the observation telescope is withdrawn and a double catheterizing telescope threaded with X-ray catheters is introduced. The right and left catheters are identified by a square cut on the distal end of the right and an oblique cut on the distal end of the left. The catheters are now passed to the kidney pelvis on each side and the cystoscope withdrawn. We note the character, rate and rhythm of the urine flow from each side. Specimens are collected in sterile tubes and sent to the laboratory for the same routine examination required for the bladder specimen. Phenolsulphonephthalein is now injected intramuscularly and its time of appearance noted on each side. I have been quite satisfied with this simple method of applying the 'phthalein test in my kidney cases, and only in exceptional instances is a quantitative estimation made. The patient is now wheeled into the X-ray room and radigraphs made of the whole urinary tract. One picture is made of the ureter region by making two exposures on the same plate in different planes.

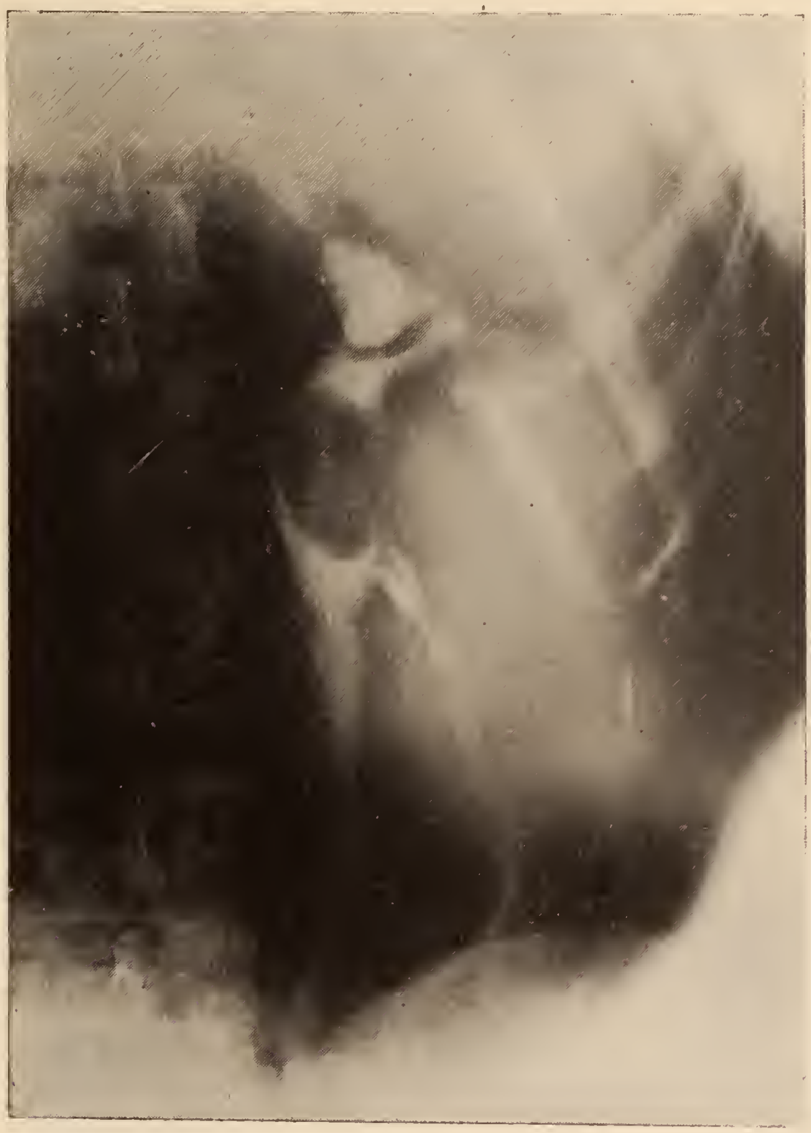

Fig. 9. Papillary carcinoma entirely filling pelvis and extending into parenchyma. Note entire absence of middle calyx, and filling defect in pelvis. There is no room for bromide since pelvis is filled with new growth.

We now make a pyelogram of the kidney under suspicion. I employ a 25 per cent solution of sodium bromide, allowing it to run in by gravity until the patient complains of slight discomfort over the corresponding kidney. The amount varies from two to three to seventy or more cubic centimeters. It is important to stop the injection at the first suggestion of discomfort, no matter how small the amount may be. The distal end of the catheter is plugged while the picture is taken. In many cases one picture is made in the horizontal and another in the standing posture. The catheter is now uncorked, and while the bromide solution is running out we inject two ccm. of 25 per cent solution of argyrol into the pelvis of the other kidney. Both catheters are withdrawn and the patient returns to bed or home as the case may be, to await the laboratory and X-ray reports. Those patients who remain in the hospital have blood taken for a Wassermann test and blood chemistry. I feel, when all the reports are in, that we have a fairly comprehensive knowledge of the patient's urinary apparatus.

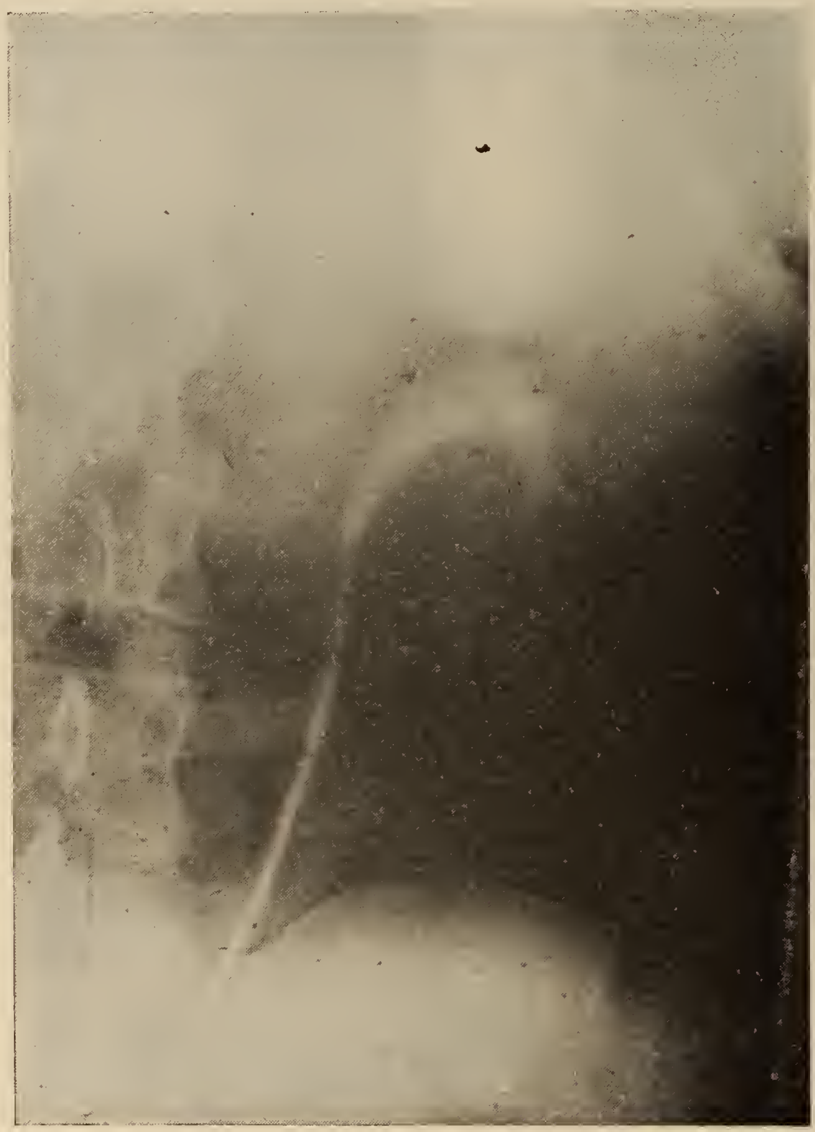

Fig. 10. Adeno-carcinoma. Note lower calyx which is normal; entire absence of middle calyx. Upper calyx is replaced by crescent-shaped figures. Tumor is above this and crowding into pelvis.

Of course in many cases this is more of an examination than might be required, but it does no harm, and I feel that if we get into the habit of following this routine in every case we shall often elucidate important data which otherwise might be readily overlooked.

I am much impressed with the value of pyelography as a diagnostic clears up doubtful points, and in a few instances it provides us with the only possible method of making a diagnosis.

We make a pyelogram of every kidney which is under suspicion, and not for any special indications. While there are no doubt many cases in which a satisfactory diagnosis may be made without this particular aid, yet it has helped us in so many doubtful cases that we have adopted it as a routine. When properly done it is a harmless procedure. We have made several hundred pyelograms in our clinic and have yet to see any alarming symptoms follow it.

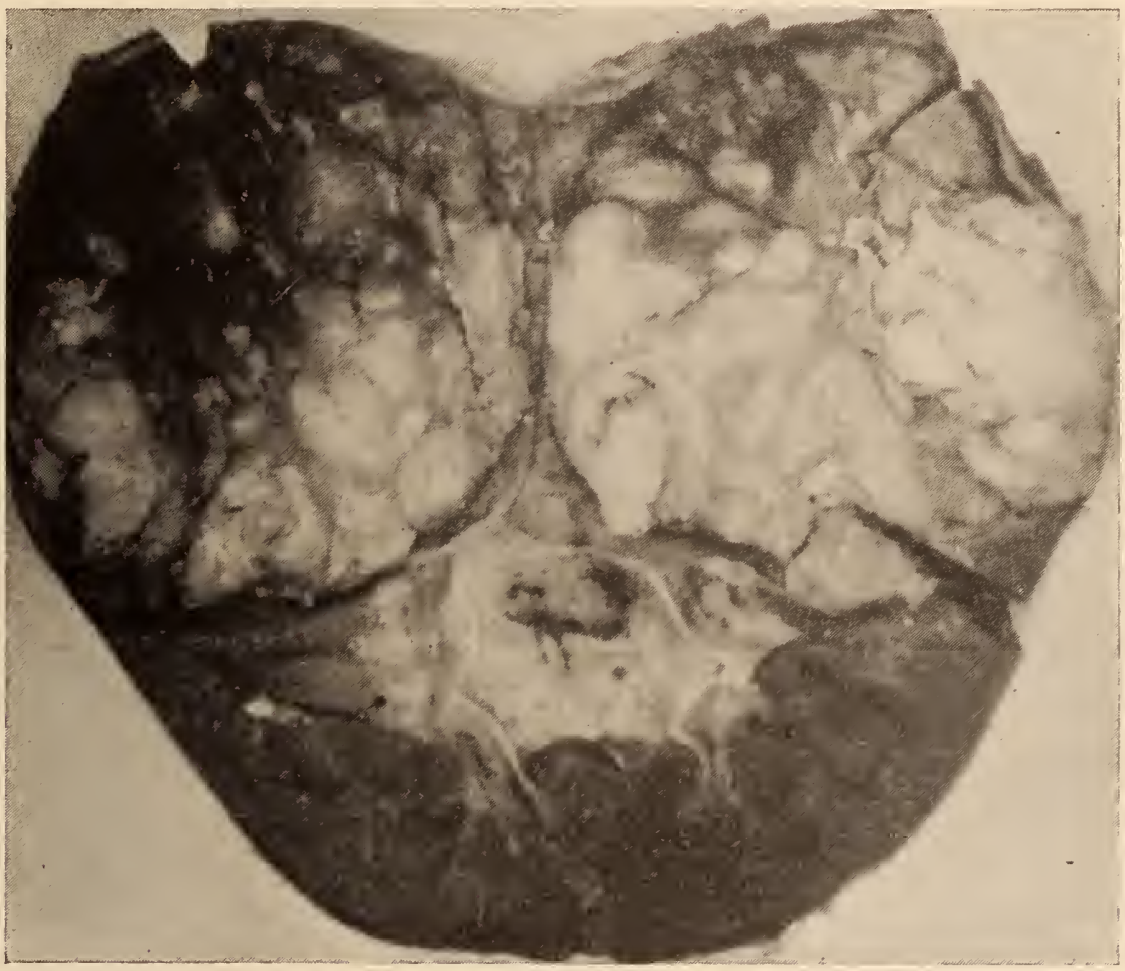

Fig. 11. Adeno-carcinoma. Same case as Fig. 10. Note normal lower pole; tumor occupies upper pole, causing crescent-shaped pyelograph shadow.

The accompanying illustrations demonstrate very clearly its advantages. The cases shown in Fig. 2 and Fig. 3 could not have been accurately diagnosed in any other way. They were promptly relieved of all symptoms by ureter dilations performed through the cystoscope. The case illustrated in Fig. 5 and Fig. 6 presented symptoms pointing to a renal calculus and the patient might very well have been subjected to an unnecessary operation if the diagnosis had not been cleared up by means of pyelography.

The early diagnoses of renal neoplasms is of tremendous importance and yet often extremely difficult. These patients will come to us with a history of one or more attacks of hematuria lasting for brief periods. Often when we see them the urine is perfectly clear, and a very thorough examination including all our diagnostic aids except pyelography may be entirely negative. While of course every case cannot be diagnosed by means of a pyelogram yet many of them can. I attach more importance to filling defects than I do to the elongation and distortion of the calyces so often referred to in the literature, which I believe represent a more advanced lesion where the diagnosis is often obvious by simple palpation. Fig. 9 illustrates in a very striking manner what I refer to as a filling defect.

Optimism In Infantile Paralysis*

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INFANTILE paralysis has always been one of the most dreaded diseases of childhood and young adult life. It often has a high mortality—approximately 25 per cent of those stricken, in 1916 in New York City, succumbed to the attack; and it has a tendency to leave much disability and deformity in its wake.

This paper discusses the after-care of the 75 per cent who survived the acute stage during the epidemic of 1916. It is a plea for much protection of parts involved; it is an urge to carry through, for a long time if necessary; it is *optimistic* in that it encourages the profession, and through them their paralytic patients, to believe that a more hopeful outlook, for the disabilities, than is generally supposed is possible for most of the victims of the "scourge"; but it is intended to sound a distinct note of warning to those who expect to get-well-quickly.

The orthopedic care of the polio. patient should begin immediately after the child leaves the hands of the physician skilled in caring for acute symptoms, and should be carried through, by the orthopedic surgeon, until the patient has recovered from all paralytic disability; or, until the "residual" paralyses have been compensated for by operations of stabilization of joints or by adequate bracing. This means, not weeks or months, but years. It is because so few, even among physicians, know that all or nearly all disability for paralysis may be overcome or adequately compensated for, that the arrival in our midst of a newspaper heralded "miracle man" brings to light so many badly disabled and deformed victims of the epidemic of 1916. Those who have been followed through, from the beginning, in the manner this paper describes, are not found today in the sad condition of those who crowd the Health Department clinics.

This community attacked the problem of the 1916 epidemic in a magnificent manner. A "plague," of severity and scope almost equalling European scourges of hundreds of years ago, suddenly swept down upon New York City and upon Brooklyn and Long Island in particular. It was promptly met. The full strength of the Department of Health was exerted and protection from expected disabling deformities was begun long before an extended quarantine was released; parents were instructed where to send quarantine discharged patients for follow-up care; all hospitals, whether special or general, increased their facilities to capacity limit, to meet this follow-up; general practitioners received valuable instruction concerning the important after-care; parents were fully alive to the need of this. In a word, patients were started on the right road as never before in the history of this disease. And for about two years, intensive public and private follow-up continued in much the enlightened way in which it started. The writer firmly believes that, many as are the disabilities and deformiities resulting from the 1916 epidemic, but for this start and for this two years follow-through the crippling which might have been seen everywhere today would have been appalling.

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*Read at a meeting of the Brooklyn Pediatric Society, November 23, 1921.

But two years is not long enough to follow-through in the severe cases; and a number of factors have led to the later neglect of the victims of 1916. Perhaps foremost of these deterring factors has been the transference from home duties of many physicians, especially the orthopedic surgeons, for war service. Not finding available their proper guides, the doctors, many patients drifted into the hands of cure-alls—irregular practitioners, masseurs,* brace makers and others who, not understanding the all-around care necessary for the children, promised marvels in the way of cure. When they did not experience the results promised, parents became discouraged and so their children have been neglected. Then, too, many parents have never fully realized the fact that recoveries may be long delayed. They have seen a certain amount of recovery; their child can do things he could not do three years ago, and they have let him walk on a greatly disabled foot or strained knee or hip, or they have allowed a frail arm to dangle indefinitely, or a child with a paralyzed trunk to sit or stand unsupported—and they *did not know* that this lessens the possibility of future usefulness to the part thus abused. The irregular attendants to whom they have transferred their allegiance, do not know these facts, and so the parents have carried on blindly.

Oh, the reasons for the slump in the follow-through are easily understood! But we, as physicians and guides, owe it to our patients to set them right. Fortunately even the neglected and abused patients can be vastly improved, although much time has been wasted and more will have to be done than would have been the case had they been followed through intelligently from the beginning. This paper endeavors to point the way.

In the follow-up care of infantile paralysis, it should be the business of the orthopedic surgeon to *protect* the weak parts from strain of any kind, to carry protection through until it is not necessary, and gradually to release from protection such parts as show, in gentle tests, ability to care for themselves. The writer feels so strongly the importance of protection in this after-care that he would amplify it. But first there are certain *principles* which should not be lost sight of and upon which rests the after-care:

1. In those that survive the acute symptoms, a greater or less degree of muscular paralysis remains as the characteristic symptom.

2. *Paralysis tends toward recovery,* muscle group after muscle group being slowly freed. The "temporary" paralysis recovers within a few months; the "residual" paralysis may take years.

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*By contrast, the writer expresses appreciation of the faithful and intelligent care of many masseurs and other attendants who, working under physicians, have greatly aided in muscle recovery.

3. Paralytic disability may be aided or retarded according to the after-care rendered.

4. Recovery tends to be unbalanced, in regard to any given joint-control; thus *recovery tends toward deformity,* which can be and must be prevented.

5. Recovery is *retarded* by *lack of protection* from weight bearing by lack of protection from cold, by lack of protection from deformity. and by *over stimulation* in the excessive use of electricity, of massage and of passive and active exercises, especially excessive walking on weak thigh, leg and foot muscles. Over stimulation favors muscle atrophy.

6. Recovery is *advanced* by ample *protection* from weight bearing, from local cold, from deformity, from over stimulation, and by judicious use of stabilizing operations when the proper time arrives. Recovery is also greatly aided by the will to improve exerted by all concerned—by the child, if old enough, by the parents and by the medical attendant.

In the foregoing statement of principles, it will be seen that much stress is placed upon protection, and little upon local stimulation. In the light of a rather extensive consulting experience in these cases, it is the unhappy lot of the writer to see many in which the contrary principle of procedure has been followed. A child is brought, attacked possibly in 1916. Much general muscle recovery has taken place—the so-called "temporary paralysis" has cleared up; but there remains some very disabling part or parts; probably with contraction deformity. If of but one lower extremity, its measurements of bone lengths may show a discrepancy of as much as two inches! this latter especially shoud *not* have occurred—it is the one feature of disability about which we must give guarded encouragement, for the child's future release from all outside aid. On questioning, one finds there has been excessive over-stimulation: perhaps by electricity (but this fortunately is not so common a cause as it was a few years ago), perhaps by "chiropractic" (Whatever that is), often by allowing walking with the part unprotected from strain. But most frequently the story is that there have been years of *excessive* massage. All of these cause wasting of muscles and bone atrophy.

How different is this picture from that of the child who has been carried through, from the time of acute symptoms, with protection as the thought foremost in the mind of the medical attendant, who, however, has used careful muscle training in the bed-ridden months, or until the child has, through braced-walking, been able more nearly to simulate the natural use of muscles. All muscle training should look toward natural function of the part. Recovery in the protected child has been less spectacular than in the forced chid, but has been more uniform and with usually no bone shortening. Muscle girths uniformly increase—the weaker side slowly but surely approximates the girth measurements of the stronger. There are no delaying contraction deformities.

The relative importance of muscle training and of protective apparatus varies in different parts of the body. In general, in muscle insufficiency in the lower extremities and in the trunk, much protection from strain is indicated; and walking (in the apparatus) for the legs, and breathing (in the corset or brace) for the trunk, give the necessary exercise. For the arm, however, the part gets no help outside of itself, and here, although protection is just as important as elsewhere, passive motions leading to increasing active motions are indicated. The writer's Deltoid chair and Deltoid brace are valuable aids. All muscle training must be educative. It must lead, like mental education, from the simplest and much assisted work, gradually through to self-sufficiency. But above all, the part must be protected from strain, when not having its "lesson."

By protection from strain is meant simply this: Just such artificial apparatus is used as will be necessary to replace the control which cannot safely be assumed by the weak muscle or muscles, and not one whit more than is necessary to insure this. It means that, as muscles tend toward recovery, this artificial apparatus is gradually (one may almost say rapidly) lessened in its scope. It means that a thorough look-over of the situation must be made by the medical attendant, assuming the responsibility, at least every two months, to determine when this change is to be made and that he should explicitly order or make the changes in the apparatus. It means that only the skilled physician is capable of doing this and that the child should *not* drift indefinitely into the hands of the masseur, the electrician or the brace-maker—that the orthopedic surgeon must control all of the activities of these agents in relation to his patient.

The physician forms his judgments on weighing comparative measurements, on tentatively trying out returning functions, and on noting the general condition of the child. A careful record of comparative girths should be kept and studied. If today, the girths of thigh and of calf, for instance, are better than two months ago, especially if they are tending to catch up with the other side, the treatment has been efficient. If not, more protection is indicated. Perhaps the child has been walking too much. Sometimes one finds marked improvement in the thigh and but little in the leg. If a gentle test without any bracing indicates that the quadriceps is now able to support the knee, the brace may be cut down from a "long leg brace" to a "short leg brace." Again one may find leg girth improving and thigh girth stationary. It indicates that "limited brace action" at the knee must be more limited for a few weeks, as there has been too much strain upon the thigh muscles. Excessive body weight indicates longer use of artificial support than in those who are light. Child coöperation and parent coöperation or lack of it play a definite part in the decision to lessen bracing.

We have, as means of artificial support, plaster of paris dressings, metal braces, celluloid corsets, reinforced shoes, adhesive plaster. Each have their uses. Plaster of paris is the most supportive, is most easily and quickly applied, adds most efficiently the element of protection from cold, and is often chosen when simple contraction deformities present themselves and because warmth is more indicated in winter. Metal braces are removable for cleansing and for muscle training when the latter is desired; and can insure stop-joint action as in the ankle and to prevent knee-back, and limited action and varying limited action, as for the knee; but they are far from "fool-proof." Celluloid jackets are light and very supportive, but are expensive, take long to make and require a plaster of paris body negative and body mould. They are very valuable after full growth is attained. Adhesive plaster is exceedingly useful to support a slightly weakened part, and where a less extensive is substituted for a more extensive brace, to bridge over partial control of the part which is being freed.

It is to be repeated that, where a patient is carried over the months and years, following attack, with the care for detail that has been here outlined there is an even progress toward self-sufficiency which meets with no set-backs; and is not comparable, to the intelligent parent, with the forced, fictitious improvement of excessive stimulation, with its attendant bone shortening and disabling contraction deformities.

But a time arrives, in many of the originally severe cases, when sufficient recovery has taken place in many joint-controls, but there remains a very inefficient body segment, as an ankle or knee. Some form of operation is indicated. Operations for infantile paralysis may be classified as those for the correction of muscle contraction and bony deformities and those for stabilizing and energizing a joint control. Often both indications are met at the same time. Although a special shoemaker may build a shoe which attempts to hold such a deformity as paralytic club foot, it is most unsatisfactory and the deformity inevitably grows worse, with corresponding disability. We therefore lay down the rule that deformities must first be corrected before reconstruction can proceed. As has been said, deformities can and should be prevented. But they are not. We therefore are obliged to overcome them.

The most frequently seen deformities are various forms of club foot, including extreme flat foot, knee flexion contraction, hip flexion contraction and rotary lateral curvature of the spine. Bad contractions at shoulder, at elbow, at wrist and of the fingers are also encountered, but are not so frequent. Simple tenotomies, with plaster of paris fixation until lengthened tendons reunite by filling in, care for many of the ankle and foot contractions. Knee flexion contractions are best controlled by long plaster of paris dressings with frequent wedging to straighten the plaster segments in a few weeks. The danger of too quickly stretching vessels and nerves back of the knee contra-indicates tenotomies here. The hip flexion deformity is very crippling and no real progress toward recovery can be made until it is overcome. A very ingenious and complete operation for this has been devised by Soutter. It frees the entire origin of the flexor muscles, at the anterior superior spine of ilium, by taking periosteum with it. The flexed thigh comes down at once; and if the parts are properly held until healed, there is no return of the deformity.

Bad lateral curvature of the spine, as a deformity, is very difficult to prevent. It should be ceaselessly guarded against. Corrective plaster of paris jackets will greatly lessen the deformity when it occurs. Adequate support must be carried on for a long time. The correction of deformities in the upper extremities are usually cared for when reconstruction operations are done.

It would not be wise to lengthen this paper by enumerating the many operations used for stabilizing and energizing joint controls. Many of them are very valuable. They may be considered as stabilizing by bone balancing and by joint fixations, as stabilizing by tendon fixations and ligament fixations, and as energizing by tendon transplantations or carrying the insertion (occasionally the origin) of a functioning tendon into the attachment of the weak tendon. Often a combination of several of these is used. If weight-bearing at joints is left in such a manner that a strain on weakened muscle groups (even when reinforced by a strong transplanted tendon) will be continued, as soon as the convalescent plaster dressing is removed, the old "give" will recur; as will also the old deformity, if not brace-protected. And as one of the objects of the operation is release from bracing, a trying disappointment will be experienced. For instance, paralytic flat foot, due to paralyzed tibial muscles is one of the most common deformities encountered. In these cases, there is often a strong long extensor of the great toe and strong peronei muscles. For this condition, a few years ago it was a common procedure, in operation, to release the great toe extensor or one of the peronei tendons or both these, near their insertion, to draw the tendon or tendons through made tunnels beneath the skin and to fix these to the weak tibialis insertion. The first effect of this operation seemed brilliant. But after varying weeks of plaster of paris protection, the child would walk upon his foot. As was indicated, at first this would be with marked improvement. But a potential flat foot still remained. The strain upon the transplanted tendons was too great. Many of the original disabilities partially recurred. Today, we stabilize the bones of the foot as well as transplant tendons. One of the most successful methods of stabilizing is that of Hoke of Atlanta. It consists in removing the head and neck of the astragalus, by an osteotomy at the neck, using a laterally bevelled plane of cleavage and reinserting the head and neck in such a manner that its long axis will point forward inward instead of forward outward, and thus changing an abducted to an adducted forefoot. Hoke's operation also includes fixations of many intertarsal joints, exposed while the head and neck of astragalus is temporarily removed, by elimination of all articular cartilage between the joints chosen. Certain details in these preparations for intertarsal fixations further insure the changed relations of the forefoot—that is, they change an abducted and everted to a slightly adducted and inverted forefoot. This operation insures stability of the foot and correct weight bearing. The transplanted tendons, if they have been wisely chosen, may be depended upon to add much active function to the foot.

The principles here outlined for paralytic flatfoot are applicable to many other paralytic disabilities and deformities. The combination of stabilizing by bone and joint "carpentry" and of energizing by tendon transplantation, result in remarkable improvements in function—"miracles," the patients call them—and the improvements are permanent.

The writer has formulated for himself certain rules as guides when to operate:

1. Avoid operations of reconstruction on very young children. Their power of muscle recovery is great and bones are not well enough formed to give stable support. Tendon contractions should, however, be overcome at once.

2. Do not operate, at any age, until convinced that a part is at a standstill or recovering so slowly that to wait longer would needlessly delay the rapid resumption of recovery that follows the well-chosen operation.

3. In the lower extremity, do not operate on any joint if the remaining joints of that extremity are not self-sufficient or nearly so; unless the patient or parents clearly understand that another joint of that extremity is also to be operated on later. Weakness in the other

limb does not contraindicate strengthening by operation of the one chosen.

4. Preference in the lower extremity is given to the ankle and foot, rather than the knee.

5. In those who have attained growth, but with great weakness of the knee, arthrodesis or complete stiffening of the knee will add greatly to the patient's ability to get about, but it must be undertaken only after a thorough discussion, with the patient, of some disadvantages coincident with a permanent stiffening between hip and ankle.

6. The new operation, for fixation of many vertebra of the paralytic spine, seems at present to the writer to be a very radical procedure. It is indicated, however, if skilled bracing fails to stop increase in deformity.

7. Tendon transplantation for deltoid paralysis is unsatisfactory; but arthrodesis of the shoulder joint, or the insertion between the acromion process and the shaft of the humerus of Galli's "living ligament," by making increased motions of the shoulder-blade cause increased motions of the arm, adds greatly to the usefulness of this member. It must not be done unless there are strong vertebro-scapular muscles.

When carefully chosen, the results of operation for restoration of function in joints are very great. Not only does the part work better, but remaining paralysis improves more rapidly. It would seem as though, in these patients, just so much vital energy or nerve energy, or whatever one may call it, were available; and that, when a part was freed from its task, a large proportion of the total energy is released for use elsewhere. Certainly, the remaining weak portions recover more rapidly after operation.

In conclusion, we may say that the follow-through of infantile paralysis cases requires intelligent, patient, painstaking and optimistic care for months and years; that it should be supervised by the trained orthopedic surgeon; that protection, lessened only when muscle self-sufficiency is attained, plays the leading part, but that carefully controlled muscle training is valuable from six to eighteen months after the attack; that forced training leads to deformity and to bone and muscle atrophy; that operations, wisely chosen, often hasten recovery, and finally, that we may and should encourage our paralytic patients—they need it.

A Plea for the Concentration of Effort in Antituberculosis Work In Brooklyn Upon Exposed and Susceptible Children

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THE suggestions made in this paper are based upon the following premises, which have been generally accepted by the medical profession:

1. In a large majority of cases, tuberculosis infection occurs during childhood.

2. In a large majority of cases tuberculosis infection occurs as the result of direct contact with open cases.

3. The resultant type of the disease in the individual case depends upon the ratio between the virulence of the infection and the resisting power of the individual. In a small percentage of instances,—most numerous in infancy,—the infection is so overwhelming as to produce an acute fatal type of tuberculosis. Usually, however, there is a close balance between the resisting power and the virulence of the infection. As a result, the infection becomes localized and is gradually overcome after a period of months or years, if the health of the individual is maintained. On the other hand, if there is a marked lowering of resistance through acute illness or malnutrition, the tubercular infection lights up and spreads to other parts of the body, most frequently to the lungs. *The age of puberty is preëminently the period at which this marked increase in the activity of the disease occurs.*

It is true that the preceding summary does not cover the whole field of preventive work. It does not include food born tuberculosis whether bovine or human, nor the cases of infection in adult life that are apt to be of the acute fatal type. Nevertheless a conservative estimate ascribes 75 per cent to 80 per cent to childhood infection.

Theoretically every community, no matter how large, ought to be able to supervise adequately the physical development of its children, and I have no doubt that such will be the case in Brooklyn before many years. Where the children are gathered together in large numbers,—that is in the schools,—would seem to be the logical place for such supervision.

In the meantime, with the particular problem of tuberculosis in mind, we must be satisfied to concentrate our attention upon those groups of children in which experience has taught us that we are most likely to find that disease. If the previous statements are correct there are three such groups.

First, children closely associated with tuberculosis in their homes.

Second, all children showing marked evidences of malnutrition.

Third, children at the age of puberty.

These groups overlap more or less, but they furnish three very definite points of attack. All three are receiving an increasing amount of attention in this borough, but the actual percentage of children reached is so small as to render the present activities valuable merely as object lessons of what might be accomplished.

Group 1. *Exposed Children.*—There are no statistics available in regard to the number of children in Brooklyn who are subject to more or less prolonged exposure on account of the presence of tuberculous patients in their homes. We may, however, draw some conclusions from known facts. There were on register in Brooklyn in September 1921, 6,956 cases of tuberculosis, of these 620 were under sixteen years and fifty-six were under five years. During 1920 the deaths under five years from all forms of tuberculosis were 141. These figures are a temptation to various lines of speculation that would have no direct bearing on the subject of this paper. They are, however, further proof of the contention that tuberculosis under five is apt to be of such an acute type that the diagnosis and death certificate follow each other very closely, but this fact should be used as an argument for still greater care in the prevention of the exposure of young children, and not as a proof of the futility of medical effort in such cases.

Dr. Harris of the Department of Health is fully aware of the necessity for the proper protection of this age group, and he has repeatedly written and spoken on the subject, and the tuberculosis clinics have a system of examination and follow-up for the children of patients. The lack of sufficient appropriation is probably the chief reason why this work is not as efficient as it might be. Until public opinion gives the necessary backing to the Department of Health to enable it to shoulder this responsibility adequately and completely, the charitable organizations interested in the prevention of tuberculosis ought to devote a very large portion of their energies to this particular field.

Most parents, if properly approached will be glad to coöperate in the adequate protection of their children. There are various ways of approach in securing parental authority. It ought not to be difficult to persuade the officials of sanatoria receiving patients from Brooklyn to call the attention of parents to the importance of such supervision, and to get from them written requests for it. These could be sent to those in care of the children or to the Tuberculosis Committee.

It is unfortunately true, that in very many instances, the children in families with tuberculosis patients in the care of private physicians, are the most seriously neglected. Many physicians seem to think they have done their full duty if they report a case of tuberculosis, and hand over to parents the printed literature relating to the dangers of infection.

Public opinion would not knowingly permit the long continued exposure of children to the ordinary contagious diseases, and it is the duty of the members of this society to assist in bringing the residents of this borough to the same point of view in regard to tuberculosis.

In the rare instances in which parents persist in grossly exposing children, in spite of repeated warning there is ample precedent for legal action. About ten years ago, I secured the coöperation of the Society for the Prevention of Cruelty to Children in such a case. The parents and children were brought in the Children's Court, and the children were committed to the society, which in turn sent them to a sanatorium for such cases.

Children of school age are receiving somewhat more attention, but this also is woefully inadequate in amount.

There are thirty-seven open-air classes in the public schools with a registration of 1,022 pupils. There should be at least one such class in each of the 177 public schools of the borough. Dr. Josephine Baker has repeatedly pointed out the illogic of limiting open-air classes to cases of malnutrition instead of making them available for every child in the city. All the open-air classes in Greater New York are supervised from the nutritional standpoint by a dietitian in the employ of the Brooklyn Tuberculosis Committee, and each child in the Brooklyn classes is supplied with a pint of milk a day,—the children paying what they can and the committee meeting the deficit. In a number of schools this has developed into a method of supplying milk at less than cost to every child that will buy it, and the idea is spreading to other schools. There is no more useful field for activity for the school parents associations than this.

The Tuberculosis Committee has maintained for several years a free summer camp for about 200 of these exposed and anaemic children. The improvement in this group is of course highly satisfactory, but it is so small a percentage of the large number needing camp life that the undertaking is chiefly useful as an indication of what might be accomplished with all. Moreover, a considerable part of the gain is lost when the children return to their homes, because our present facilities for follow-up are totally inadequate.

Group 2. *Malnutrition.*—There is no occasion for entering into any argument, in this paper, in regard to the relation between tuberculosis and malnutrition. No one will deny that the surest way to protect the exposed child or the recently infected child is to maintain the greatest possible degree of good health. The National Association for the Prevention of Tuberculosis and its allied bodies recognized this fact long ago, and base much of their work upon it. All the varied activities for out-door and country life for children may, therefore be counted as a part of the active work for the prevention of tuberculosis. Several thousand children from Brooklyn receive the benefit of country life for varying lengths of time in this way. Some of the more enterprising boys succeed in working more than one organization each summer. When we consider, however, that there are about 400,000 children of school age in Brooklyn, and that 40 per cent seems to be a conservative estimate of the amount of malnutrition, we must admit the hopelessness of getting any appreciable results along present lines. There are many who advocate having the city take over this problem by supplying summer camps as a part of our educational system. I would myself regret this further step in paternalism, for I am convinced that a better solution would be the organization of neighborhood family groups for this and similar purposes. Under proper coördination the cost would not be too great to be carried by practically all of our families. Those needing assistance could be helped out in various ways.

In the meantime an effort should be made to select all cases of marked malnutrition in our schools in order to give them some group instruction in the most elemental facts in regard to healthful living. Complete physical examinations for the 400,000 seem to be out of the question for the present, but it would not be impossible to weigh and measure them all, and to pick out those with an under weight of ten or possibly fifteen pounds as a beginning.

Group 3. *Age of Puberty.*—Both mortality and morbidity statistics show that there is a sudden jump in active pulmonary tuberculosis between the tenth and the twentieth years of life. From twelve to fifteen the rate is almost three females to one male and from fifteen to twenty it is about two to one, in marked contrast to later life when the rate is higher among males than among females. This is undoubtedly due to the facts that the nutritional demands at puberity are so great as to lower resistance to a latent tuberculosis, or to infection from external sources. The differences in the sexes is due to the later age at which males mature.

It so happens that this critical age group is very largely gathered together in our high schools. Brooklyn has ten high schools with a present enrollment of 30,500 boys and girls. While the children in the primary schools do receive the benefit of some health inspection, the present appropriation does not allow for this work in the high schools. With this in mind, the Brooklyn Tuberculosis Committee, with the active coöperation of the principal and the instructors in physical training, began two years ago to give complete physical examinations to the pupils in the entering classes of one of our high schools. In brief statistical form the results are as follows:

Of the first 1,671 examined 501 were boys, 1,170 were girls.

The chief defects were as follows—

	Boys	Girls
Vision	28%	22%
Teeth	41%	20%
Tonsils	9%	14%
Nutrition (marked)	21%	18%
Feet	2%	8%
Spine	2%	8%
Nerves	½%	3%
One or more defects	71%	62%

About 68 per cent of pupils with defects have since given evidence of effective treatment.

At first the cases of malnutrition were the most difficult to handle. The percentage of these would undoubtedly be larger if the standards of the National Bureau of Education had been adhered to, as many of these children are of diminutive size without showing definite signs of malnutrition,—no blood examinations were made.

In the last two groups of boys examined the cases of malnutrition were handled in the school by the director of physical training with most gratifying results. It has not been practicable to go through all the forms of an ideal nutrition class, but the essentials were used, particularly the incentives of rivalry in gain of weight and the hope of taking part in school athletics. By this means the eighty-nine cases of pronounced malnutrition entering the school last fall have made an average gain of almost six pounds, and they have become enthusiastic advocates of normal healthy living, and are preaching the doctrine in their own homes.

Summary.—In as much as tuberculosis is in a large majority of cases, acquired during childhood, activities for its prevention should be chiefly centered upon the first three five-year periods of life.

There are three more or less overlapping groups of children that ought to rceive special supervision.

First.—Exposed children.

Second.—Children whose lowered resistance renders them more susceptible to tuberculosis.

Third.—All children during the period of puberty.

The registration of tuberculosis renders it entirely feasible to secure supervisions of the first group.

Our present school system furnishes a field for the care and supervision of a large majority of the other two groups. As the large number to be examined precludes for the present complete physical examination for all, the work would have to be confined at first to those showing a marked deficiency in their height-weight ratio. This group could easily be selected if a concerted effort was made in all our public schools.

Physical Findings of Pulmonary Tuberculosis In Childhood*

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FROM the viewpoint of physical diagnosis it is of little importance whether the tuberculous focus of early childhood occurs primarily in the lung tissue or in the tracheo bronchial glands, because such a lung focus could not be demonstrated by the known methods of physical examination. In the infant, even though an extensive lung infection may be present, nothing will differentiate it from non-tuberculous disease of the lung. Only after the mediastinal glands have reached considerable size, may we hope to add by physical signs to the solution of the diagnostic problem. For this reason it might have been more accurate to entitle these remarks "Physical Signs of Tracheo Bronchial Gland Tuberculosis." Cases, in which definite pulmonary involvement precedes or coexists with hilus gland infection, present physical findings quite identical with those of the adult and do not concern us here. Such findings are, however, relatively rare in young children, occurring as a rule only after the eighth year of life, often times earlier in girls than in boys, perhaps because of their earlier maturity.

It may be well to mention right here a few of the difficulties met with in the chest examination of infants and young children. Some of them are based on the inability of securing proper coöperation, others on the anatomical differences between the chest of the child and that of the adult. Without a full realization of these differences, erroneous deductions from the physical signs elicited are unavoidable, leading either to a denial of tuberculosis because of the absence of physical signs or, and perhaps quite as often, to a diagnosis of clinical tuberculosis, where there is none.

The child's chest wall is thin and resilient, consequently it transmits the ordinary percussion stroke more readily. This results in the return of low pitched sound vibrations from a comparatively large bulk of lung tissue which drown the higher pitched notes of small airless portions and make their detection very difficult. For this reason percussion must be of the lightest and is best done in infants with one finger without the use of a pleximeter. A forcible stroke would throw into vibration almost the entire lung bed including the adjacent hollow viscera of the abdomen.

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*Read before the Brooklyn Pediatric Society.

Frequently the child's crying adds another difficulty. It is not only annoying and disturbing to the examiner but may actually cause impairment of resonance by creating rigidity of the muscular chest wall and prolonged periods of expiratory deflation of the lungs. While percussing the chest of a crying child, one frequently hears a typical cracked pot note, due to the rapid expulsion of air through the slit like opening of the glottis, setting up sound vibrations similar to those of the tissues at the mouth of a superficial tuberculous cavity communicating with a bronchus. Percussion in young children therefore is not very reliable, more dependance may be placed on differences in the sense of resistance. If their crying interferes with percussion, it makes auscultation practically useless, and it is a good plan for the examiner to auscultate first which may often be done without alarming the child. Even then auscultatory evidence of lung disease in a child is difficult to obtain. Hypersecretion of mucus in the upper air passages will often produce moist rales which are transmitted over the chest and may simulate moisture originating in the lung parenchyma. Latent rales on the other hand, this valuable evidence of tuberculous infiltration, can rarely be elicited in early childhood because of lack of coöperation.

I like to take this opportunity to urge the use of this means to bring out these tell-tale rales in a chest which yields no other abnormal findings. It is the neglect of this most helpful procedure which causes the average physician to fall down on the diagnosis of early pulmonary tuberculosis. Even in children of three and four one is often able to produce the necessary cough and deep respiration for the production of latent rales by a little patience and the use of a simple and suitable phrase for the patient's understanding. After choosing and discarding many phrases for this purpose, the writer has adopted the phrase, "Cough out and breathe in," or "Cough out twice, breathe in once," supplemented by demonstration and has found it practical and helpful. The breath sounds in early life are normally loud and harsh with an intense, and, I think, often prolonged expiratory element, although the text books teach that the ratio of three to one should not be disturbed over normal lung tissue. The well-known prolongation and the high pitch of expiration over the right apex, due to the anatomical proximity of the trachea is not peculiar to childhood, but perhaps even more pronounced and would not be mentioned if it were not for an experience many years ago when I was in charge of a tuberculosis day camp. After careful observation I became convinced that a large percentage of these children were not tuberculous, although they had been selected by the tuberculosis clinics. The diagnosis was based almost invariably on a slight impairment of resonance over the right apex and high pitched prolonged expiratory sound. This was deemed sufficient to explain their poor health and to make a diagnosis of pulmonary tuberculosis. The facts were presented to the chief of the division with the result that about fifteen were discharged as nontuberculous. This experience, I believe illustrates well the danger of making a diagnosis of clinical tuberculosis on insufficient evidence.

If then the recognition of pulmonary tuberculosis in the very young is hedged in by so many difficulties, how can we hope to add by physical examination to an early diagnosis which is so essential for the future of the child? Our only hope almost lies in the detection of enlarged tracheo bronchial lymph nodes. This group of glands includes those clustered around the trachea and bronchi, mainly in front of its bifurcation, those along the primary bronchi (the bronchial lymph nodes) and the pulmonary lymph nodes at the hilus of the lungs which also surround the lesser bronchi and communicate through lymph spaces with the lung parenchyma.

Inspection does not help us very much in the diagnosis of an enlargement of these glands. Prominent veins over the upper thorax, due to compression of the main trunks of the intrathoracic veins by enlarged glands are suggestive but exist in healthy children. Deformities of the chest wall about the angle of Louis, due to outward pressure of very large glands may be difficult to differentiate from those of rickets. The so-called hilus dimple, a retraction of one or both sides in the second interspace, appearing when the breath is held at the end of inspiration and due to pleural adhesions or cicatrization of the peribronchal tissues is perhaps of more value. Owing to their location deep in the thorax and because they are covered anteriorly by the thymus and great vessels and surrounded everywhere by air-bearing lung tissue, it is difficult to percuss them out in front, except when they are tremendously enlarged. Our chances are better in approaching them from the back as they will usually extend towards the vertebral column. Some men claim that they can percuss them out on either side of the upper dorsal vertebrae or by percussing the dorsal spines themselves from above downward. The dullness will usually appear over the third, fourth and fifth dorsal spine or lower down, the level depending upon the fact that the bifurcation of the trachea is on the level with the third dorsal vertebra at birth and descends gradually with advancing years until it reaches the seventh dorsal in old age. Pottenger uses palpation instead of percussion. He starts at the first dorsal spine with one finger on each side of the spinous process, carefully estimates the total density under his two fingers and notes a distinct increase in resistance when that portion of the spinal column is reached which lies on a level with the enlarged glands. Unfortunately most of us are not Pottengers, and only those who are endowed with an unusually keen sense of touch and hearing may hope to diagnose tuberculous hilus glands by percussion or palpation. The rest have to rely on auscultatory evidence. I will first mention Eustace Smith's sign which is occasionally found in this condition, but of only questionable value, as it may be present in other conditions and in healthy children. It consists in a venous hum, audible over the manubrium just below the episternal notch. It is elicited by making the child throw its head way over backwards and is supposedly produced in the left innominate vein, which in this posture is pressed upon by the enlarged tracheo bronchial lymph nodes. This explanation is not acceptable to many. Gittins holds that it is probably due to pressure on the vein by an enlarged persistent thymus, Landis and Norris have rarely been able to elicit this sign even in cases where other evidence pointed strongly to this condition.

The one sign upon the value of which the great majority of observers have laid much emphasis is D'Espine's whisper sign. It supplies perhaps the most valuable diagnostic evidence next to the roentgen ray. We let the child whisper one, two, three or papa and mama, while we listen over the vertebral spines successively from above downwards, using a small bell stethoscope. We hear the numbers plainly in normal children down to the seventh cervical vertebra. Here the lungs close in and the characteristic tracheal tone becomes gradually lost althogh the syllables may still be definitely heard. When the tracheo bronchial glands swell, they bridge over the normal gap between trachea and vertebral column and conduct the characteristic tracheal quality with undiminished intensity to the upper dorsal vertebrae, down as low as the eighth dorsal at times. Under normal conditions, according to Much of Hamburg, this tracheal tone is normally heard up to the seventh year down to the seventh cervical vertebra, from the seventh to the eighth year down to the second thoracic vertebra and after the fifteenth year down to the third thoracic vertebra.

The distinctive quality of the sign does not consist only in the clearness and intensity of the whisper, but in a peculiar prolongation of the final "e" after the voice has stopped. There is no doubt that D"Espine's sign is helpful although it cannot be considered as pathogmomonic .

From what has been said it will be understood that if physicial signs were our only guides on the path towards a diagnosis of pulmonary tuberculosis in childhood, most of us would fail to reach our destination, going either too far or not far enough. At the best physical signs in this condition can only be considered a rather weak link in the chain of evidence supplied by history, symptomatology, X-ray and tuberculin tests.

The Organized Anti-Tuberculosis Movement*

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FOR about twenty years organization for the control and prevention of tuberculosis has been going on in the United States. There is little doubt that no other disease has enjoyed so great and specialized attention as has been given to tuberculosis. It may be said fairly, I believe, that the success which has attended the attempt to solve one of the greatest health problems has been due, primarily, to the constant and persistent agitation of private anti-tuberculosis organizations. It would be most unfair to claim that the actual execution of program can be credited entirely to these private agencies; no fair-minded anti-tuberculosis worker will hesitate to agree that without the energetic participation of boards of health, a multitude of other organizations and of individuals, progress would have been slow indeed.

The private agency, however, unhampered by budgets restricted by municipal appropriation only to tried and accepted methods, has been able to feel out the way, to grope forward through unexplored territory and through experimentation along this line and that, find solid ground.

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With practically no initial equipment twenty years ago, the anti-tuberculosis worker can point out today more than 700 well-equipped sanatoria, more than 600 clinics, thousands of open-air classes in the public schools, thousands of tuberculosis nurses, 1200 local and state associations united in purpose and program through a National Association, and a well-defined public appreciation of the possibilities of the control and prevention of what was once, to it, an inherited scourge from which there was no release.

A national death-rate from pulmonary tuberculosis reduced, since 1908 when the first Christmas Seal Sale united the then-existing associations, from 167 per 100,000 population to 100 in 1920; from 198 in 1908 to 89 in 1921 in Greater New York, and from 174 to 76 in Brooklyn, defines the success attending the efforts of and gives new courage to the army of workers which has been struggling with this great problem with a determination and relentlessness for which it is to be congratulated.

The Tuberculosis Committee of the Brooklyn Bureau of Charities began, in 1905, what has developed into a well-rounded and typically modern anti-tuberculosis program. Roughly divided into two main parts, it attempts to discover better methods for the discovery and control of existing tuberculosis disease and, in the light of the belief that tuberculosis infection is almost universal, to prevent tuberculosis through the preservation of health in general.

Briefly, its program is as follows:

Early tuberculosis is difficult of diagnosis. Its gradual and unsuspected onset keeps many persons from reaching the physician when the disease is in its early stages. It is estimated that 10,000 people in Brooklyn, suffering from tuberculosis, are not under medical care. The practice of periodic (annual) medical examinations probably is the one method through which early tuberculosis or a predisposition to it will be discovered. Cancer, heart disease and many other conditions will be discovered early enough through the periodic examination to make recovery possible.

The committee is attempting to demonstrate the value of such examination in several ways. In its four examination stations, or health centers, it is discovering for thousands of men, women and children unsuspected defects. Nearly 50 per cent of the tuberculosis found during 1921 was in the early stages, frequently entirely unsuspected by the patient.

In one of the large high schools each year from 1500 to 2000 children in the entering classes are examined by the committee's physicians. About 80 per cent of them are found to have defects more or less severe. Some 75 per cent of those needing treatment are securing it from their physicians or dentists. Careful follow-up by the school and a nurse provided by the committee bring home the lesson of the need for caring for health. An effort will be made to persuade these children to have themselves gone over regularly by their physicians.

In industries, churches, clubs, and before many other groups the value of the periodic medical examination is being told through talks, pictures and literature. The use of the physician and medical science to preserve health is new to the general public—but it is essential to the early discovery of many of the diseases which are commanding so much attention because of their high death-rates.

Among the children, in addition to those who are directed to treatment through the health centers, the committee reaches about 1000 in the open-air classes of the public schools, to which it supplies nearly 100,000 quarts of milk annually. From one-third to one-half of the cost of the milk is paid by the children, the remainder by the committee. There is a constant contact between the Boards of Education and Health with the committee through which every attempt is made to render these classes most serviceable to the children who, because of undernourishment or contact with tuberculosis or both, need this special treatment.

During the summer months about 600 children are taken to camps for from two weeks to a month in order that they may gain a new footing in their struggle to keep their health. A follow-up nursing service during the winter attempts to correct such home conditions which have been the cause of the need for camp treatment. Most of these children are recruited from the open-air classes.

In Medford Sanatorium, supported jointly by the Tuberculosis Committee and the Labor Unions of Brooklyn, there is to be found sanatorium accomodations of sixty beds for incipient cases. The health centers serve as admission bureaus to the sanatorium.

Some measures of relief, in the form of diets, medical appliances, medicines and material relief are offered by the committee to needy families. About 300 families are served annually in this way.

In addition to these personal services, a considerable campaign of information through cards and posters in all the cars and stations of the B. R. T. system, through literature, lectures and talks, constantly is being conducted in order that people may be persuaded that tuberculosis can be arrested, that there are a multitude of services available to them, that health preservation is far more important and possible than health restoration.

To physicians, perhaps the most useful service offered by the committee is that of the health centers. Through them is offered consultation diagnosis in tuberculosis, assistance in securing admission to sanatoria and general information as to where special services may be secured. The centers do not compete wtih physicians. Treatment is not given. Conditions are discovered through the offer of free examination that might otherwise have gone unattended. In every case the patient is urged to go to a physician for treatment. If he cannot, or will not, he is sent to a clinic.

If the information which the committee has concerning sanatoria or other services for the tuberculosis can serve physicians, it is available for the asking. If physicians can use the variety of literature prepared or distributed by the committee for the tuberculosis or for the prevention of tuberculosis, it will be supplied. If there are facilities not now provided by the committee, which should be and can be made to serve physicians, we trust that there will be no hesitancy in calling them to our attention. Our prime purpose, our one object in carrying on our work in Brooklyn is to serve in every way within our means consistent with the rights of a private agency, toward the end that existing tuberculosis may be discovered and controlled, that predisposition to tuberculosis may be removed and that through preserving the health of the well, tuberculosis may be prevented.

The Significance of Tuberculin and Complement Fixation Tests In Children

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IN 1890, Koch first demonstrated that when tuberculin was introduced into a body known to be previously infected with tubercle bacilli a general reaction occurred. This reaction was characterized by an increase in temperature and pulse rate, a feeling of prostration or malaise, loss of appetite, chilly sensations, headache, and often sweating —all evidences of toxemia. Such a reaction seldom, if ever could be induced when the same amount of tuberculin was similarly employed in an apparently strong, healthy subject. It appeared, therefore, to be a specific reaction, and the body so responding was said to be hypersensitive to tuberculin. For a number of years, this general reaction was all that was observed. In 1907, Pirquet, by applying tuberculin to the abraided skin, first showed that it was possible to induce a local as well as a general reaction. Soon after it was learned that wherever tuberculin was applied to a mucus surface, as in the eye (Calmette), a local reaction occurred. These phenomena all seemed to indicate therefore that in a body previously infected with the tubercle bacilli, a specific reaction occurred when tubercle bacilli or one of their products (tuberculin) were again introduced. The cells of such a body were stimulated by the presence of the previous infection to react in a manner unlike those of the apparently healthy, a condition which the French named allergy. Such a body was said to be hypersensitive to tuberculin—and this hypersensitiveness was both general and local—the cellular response affecting every organ and tissue of the body. As this reaction most frequently occurred in those having manifest signs of tuberculosis, it was looked upon as a fairly accurate indicator of active clinical disease. Gradually by improving the technic of administering tuberculin—notably by employing the intradermic method of Mendel, Mantoux and Roux—animal experimentation and more accurate observation were made possible. And so it came to be established that not only in bodies harboring considerable disease, did the reaction occur, but also in those possessing but slight foci of infection, often in those having but a solitary tubercle. In control animals, or those having no previous infection, the reaction failed to appear, while in those animals which had been subjected to repeated infecting doses at varying intervals, the reaction appeared to be more intense. Baldwin early concluded that a positive reaction could never be obtained unless the animal had previously been innoculated with either living or dead bacilli. Römer came to believe that the intensity of the reaction varied directly with the extent of the tuberculous process. It was thus not until considerable animal experimentation had been resorted to, that a clear conception was made possible of the significance of primary infection by the tubercle bacilli, of the reacting powers of the host to this infection, and of the altered reacting powers to subsequent superinfection.

By 1916, enough knowledge had been gathered to enable Krause to conclude that:

1. Cutaneous hypersensitiveness to tuberculo-protein, is inaugurated by the establishment of infection and the development of the initial focus.
2. It increases with progressive disease.
3. It varies directly with the extent and intensity of the disease.
4. It diminishes with the healing of the disease.
5. It is probably never entirely lost (except in the presence of intercurrent disease, pregnancy, etc.).
6. It is increased by reinfection.
7. It is diminished or completely wiped out during the period of the general tuberculin reaction.

During these years, the clinical observations were paralleling rather closely the findings in animal experimentation. Thus in 1907, when the Pirquet reaction first became known, clinicians were inclined to put too broad a construction on the presence of a positive test. Many assume that its presence denoted very extensive infection or even clinical disease, and in the absence of demonstrable gland, bone, or joint involvment, concluded that pulmonary disease must be present. This assumption was of course later found to be unwarranted. As the technic for applying tuberculin to children and adults underwent improvement, especially by introducing the intrademic method of Mantaux—it was found that 90-95 per cent of the entire adult population gave in varying degree a positive reaction. In studying the age incidents of the first appearance of the reaction, it was found that it could be obtained at the end of the second year in about 10 per cent of all children, at three years from 15 to 20 per cent; at six years from 50 to 60 per cent, and by fifteen years about 75 per cent.

As no further proof has ever been offered to show that such a percentage of the adult population could have been afflicted with clinical tuberculosis of any form, let alone pulmonary involvement, it became perfectly obvious that a positive reaction indicated—just as animal experimentation had proved—simply that the infection had taken place at some previous time. The presence of a single tubercle anywhere in the body, was sufficient to induce it. Indeed, it is now thought by many that not even the presence of anatomical tubercle is necessary. It is considered by them, that a body once infected by tubercle bacilli, becomes allergic or hypersensitive, even after all anatomical trace of the infection has disappeared. This last is still a mooted question.

Bound up closely with this cellular hypersensitiveness or state of allergy, is the phenomenon of immunity, by which the host strives to protect itself from the malign effects of super or reinfection—a process but little understood as yet. But during the span of life, this state of added infection is probably constantly going on—not a score or one hundred times, but possibly thousands of times. As each added or superinfection occurs, cellular hypersensitiveness is further stimulated —though because of the immunity that goes with it, clinical disease may never develop unless some of the infections have been massive, or the specific immune process has become impaired in one way or another, as through forces working upon the general immunity of the patient. The cellular hypersentiveness remains therefore in varying degree, constantly throughout life, and fails only just before death, when the processes of both general and specific (tuberculosis) immunity collapse—or temporarily during the course of some intercurrent infection or a general tuberculin reaction. Hence in the adult, who presumably has been the recipient of not only an initial infection of the tubercle bacillus but of numerous subsequent ones, a positive skin reaction denotes only that infection has occurred, and that the cells of the body are in a state of hypersensitiveness to this infection; and as such indicates that a certain degree of specific immunity against the infection exists.

When the infant becomes infected for the first time, the issue is of course a doubtful one, for such a host is not possessed of the specific defensive mechanism by which subsequent infections are met. At the time of first infection, he is without the immunity that this very infection later confers upon him. Yet shortly after this first infection, cellular hypersensitiveness sets in, and a positive skin reaction will occur. If the first infecting dose is a small one, the result may be a beneficial one, for it will initiate the process of allergy, and with it the first effort on the part of the body to protect itself. If, on the contrary, the first infection is a massive one, the result may be very grave, for the cells of the infant's body may be overwhelmed before they have had a chance to react. Infection in infancy comes therefore to assume a role of much greater importance from the clinical viewpoint than reinfection in adult life. It is fraught with relatively greater hazards. It may be regarded as an active process until the immunity process is under sufficient way to give adequate protection. A positive skin reaction in an infant indicates infection—more or less recent—and because of the condition just named, carries with it a much graver clinical significance than when found later in life.

Although many years of work have been devoted to the study of the complement fixation test as applied to tuberculosis, a marked lack of uniformity of opinion exists as to its value as an aid to diagnosis. If this has been true in its application to adult tuberculosis, it is even more so when applied to the disease in infants and childhood, for very little work has been done in this field. A good deal of the confusion has been due to a lack of standardization in the technic employed in the test. Many antigens have been employed, and so it is not surprising that many varying results have been noted. Then too, it has been difficult to harmonize varying opinions as to what constitutes a clinically active or a clinically inactive process, and whether or not the former is identical with pathological activity. In dealing with children, this last factor need be of no great consequence, for the probability is that when infection occurs at this time of life, pathological and clinical activity more nearly approximate each other than at any time later in life. The test will undoubtedly achieve a more valuable footing, however, when the technic is simplified and more nearly standardized.

At present in making use of the test, one should confine oneself largely to inferences. From the work that has been done to date, it would appear that the antibodies responsible for the fixation, apparently bear no relation to those concerned with cellular hypersensitiveness to tuberculin. When initial infection is of relatively small dosage, the compliment fixing antibodies take longer to develop. They apparently require the presence of a definite focus of infection, from which antigen may be absorbed. They disappear rapidly with the removal of the infection. When a focus is present, it may not be extensive enough to bring about manifest symptoms, and yet be sufficient to produce compliment fixing antibodies. It does not matter where the focus may exist—in a gland, bone or joint, or in the lungs—it appears able to stimulate the production of these specific antibodies. This must be clearly borne in mind when seeking to interpret a positive reaction. The only inference to be drawn from such a response, is that somewhere in that body a pathologically active focus exists. Because of the relatively weak immune mechanism that exists in infancy against active infection, such a reaction assumes graver aspects clinically.

In only a relatively few instances (5 per cent), have positive non-specific reactions been observed. These have occurred in cases of hereditary syphilis and diphtheria—the reaction lasting in the latter cases for several months. Cook found that a positive reaction is seldom obtained in the first year of life, even when there is a manifest disease present. In children over six years of age, about 80 per cent of cases with manifest tuberculosis, gave a positive reaction. From the second to the sixth year, a gradual increasing number develop fixing antibodies. It would seem then that the younger children form antibodies much less readily than the older ones. In children under one year, the compliment fixation is of no value. The test becomes of more value, the older the child. The presence of a positive reaction should lead one strongly to suspect the presence of a pathologically active process—which in childhood approximates clinical activity—especially if it occurs together with other suggestive signs and symptoms, such as a positive skin test, unexplained afternoon temperature, undernourishment, languor and lack of endurance, positive D'Espine, and increased hilus shadows on the plate. A negative reaction is of less informational value. It will occur in the presence of clinical tuberculosis when complicated by any intercurrent infection, and for some little time before a fatal termination.

The Value of the X-Ray in the Diagnosis of Tuberculosis

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OVER no subject in medicine of recent years, has there arisen more discussion than that concerning the relative value of the various methods used for detecting pulmonary tuberculosis in its incipiency.

Of special interest on this subject is the importance of roentgenology particularly in children.

Many men skilled in radiography and doing no clinical work whatever, proclaim that they can detect pulmonary tuberculosis more frequently and at an earlier stage than the clinician.

Similarly, many clinicians unused to the interpretation of radiograms, maintain their ability to detect pulmonary tuberculosis with as great a degree of accuracy as the roentgenologist.

We find many tables arranged, giving the relative value of the various methods used.

These tables of course vary with the familiarity of the originator in any particular method, but at least it is evident that we must consider heredity and environment, symptoms, physical signs, tuberculin, roentgenology and bacteriology, in arriving at the diagnosis in children.

Radiography has now passed through the initial period of a new discovery, and has proven its value in many ways in medicine. Let us review its importance in pulmonary tuberculosis.

Before doing this, we must realize that roentgenology is not an exact science, since it depends so largely on the personal factors of technic, interpretation and knowledge of pathology on the part of the roentgenologist.

Also let us realize that the radiogram is a visualization of gross changes in the body, not microscopic—by means of shadows of varying density; a visualization quite different from that seen at autopsy, and requiring special training.

Inasmuch as the roentgenograms represent the pathological changes that may occur, let us briefly review the changes caused by the tubercle bacillus in the lungs:

The main portals of entry of this organism into the body are through the respiratory and the digestive systems.

Having entered the body, whether the primary lesion in the lung is caused by direct inhalation and lodgement of the bacilli in the walls of the smaller bronchi, or whether the bacilli first causes a reaction in the mediastinal lymph nodes, and secondarily invade the lungs by way of the lymphatics, is a mooted question.

Seemingly, either mode of infection may occur.

It is found most frequently that the first lesion in the lungs appears in the wall of one of the smaller bronchi situated in the apex, although the process may begin elsewhere.

This is to be specially noted in children where not infrequently the process begins in the lower lobes.

With lodgement of the bacilli in the bronchial wall, an acute inflammatory reaction is begun with the formation of tuberculous granulation tissue. This differs from ordinary granulation tissue in that it contains a greater number of lymphocytes and fewer leucocytes than ordinary granulation tissue. Also it contains giant cells and epitheloid cells and areas of caseation.

At a later stage, this granulation tissue ulcerates and discharges through the bronchus, but not until the adjacent alveoli have been involved with the formation of tubercles.

The disease is thus spread throughout the lungs by aspiration of this infected material to other areas, and by peripheral extension of the initial lesion.

However, this initial lesion may become healed at this stage, with the formation of a fibroid area encapsulating a cheesy material, or by calcification.

This is the so-called type of chronic pulmonary tuberculosis.

The involvement throughout the lungs may be more or less extensive, but the process is essentially that described above, *i. e.,* infiltration, cavitation, fibrosis and calcification.

Pulmonary tuberculosis in childhood does not differ essentially from the disease in adults, except in the greater frequency of the acute forms with fatal termination, and also the greater frequency of mediastinal tuberculosis.

Holt says that after six years of age, the pulmonary tuberculosis of childhood is similar to that of adults.

Involvement of the mediastinal glands is very common in childhood. From this focus there is often secondary involvement of the lungs by way of the lymphatics. The bacilli are lodged along the course of the lymphatics in the walls of the blood vessels or the bronchi. Here we have the formation of tubercles, microscopic in size.

These are roughly concentric masses of cells clustered around a central necrotic area, sometimes arranged in laminae, but usually attached to each other in less orderly fashion—so called epitheloid cells. Generally there is found within the central area, a giant cell.

There is a strong tendency for these tubercles to grouping and coalescing, thereby form the macroscopical tubercles.

Remember these early tubercles cannot be seen on a plate, and are only visible after confluence when they obtain a size approximately one-fourth of a centimeter in diameter.

At a later stage, these tubercles become quite large and form areas of consolidation, indistinguishable from the broncho-pneumonic form.

This type of lesion may be localized to two or three main upper lobe bronchi, extending from hilus, or be diffusely scattered throughout the lungs.

Should many virulent bacilli gain access to the lungs, there will be a more acute type of reaction resulting, and very closely resembling the reaction following the invasion by pneumonocci or influenza bacilli.

There is a rapid exudate of fluid and wandering cells into the alveolar spaces, with subsequent coagulation of fibrin producing a macroscopic picture difficult to distinguish from any other type of broncho- or lobar-pneumonia.

It differs microscopically in the greater number of lymphocytes in the exudate and later giant cells are seen. Then too, caseation and cavitation frequently follow at longer or shorter intervals.

There is but one more type of reaction that may occur—the acute miliary form. Here the bacilli have gained access to the blood stream and are diffusely scattered in the lungs, lodging in the walls of the alveolar septa and causing the formation of thousands of tubercles as described previously.

Now let us see how these various pathological forms will appear under the roentgen ray.

We must realize that roentgenology is not an exact science, due to the fact that it depends so largely on personal factors of technic, interpretation and knowledge of pathology on the part of the radiologist.

Also we must realize that the X-ray reveals gross pathological changes, not microscopical changes, and that in the lungs, a lesion must have attained a definite size before it can be seen. But the disease may be present and active while its changes are growing sufficiently large to be macroscopically visible.

Fluoroscopy alone will not give the best results, because it is not sharp enough in detail to show the changes in the lungs as early as the plates.

However, for all except the very early cases, the fluoroscope is very efficient and will reveal some things the plate cannot show, for instance, diaphragmatic motion, closure of cavities on cough, succussion splashes, and presence of early mediastinal enlargements seen only by change of posture.

Stereoscopic plates should be used to avoid the confusion of superimposed shadows found on the single flat plate at times.

Best results will be obtained by combining both of these methods of examination.

Radiographically we distinguish three types of pulmonary tuberculosis: 1, hilus; 2, peribronchial; 3, parenchymal.

The hilus type consists mainly of the glandular disease seen so commonly in children.

This occurs more commonly on the right side, and fortunately so, because on the left side it would not be visible till a later stage, due to the left heart covering more of the hilus than the right heart.

Here we see an enlargement and distortion of the normal hilus shadow, due to engorged blood vessels and lymphatics, and numerous denser areas of enlarged glands, varying in size.

Should the glands be matted together, the outer border of the mass will be irregularly scalloped in appearance.

This picture is just that of enlarged glands and congestion at the root. It may be found after measles, whooping cough, influenza, Hodgkins' Disease, or malignancy of the glands. Thus the picture cannot be called typical of tuberculosis.

However, should we find calcific areas in these glands, and extending into the lung tissue, then we can safely diagnose tuberculosis, because there is no other known disease that gives calcification in the glands in children.

In this type of disease the X-ray is of distinct value in showing the enlarged glands, etc., but cannot always determine the etiological basis for the condition.

In the peribronchial type which is considered due to an infection through the lymphatics, secondary to glandular disease, we see generally some distortion of the hilus shadow with enlargement of the glands. This is variable in extent. Extending out from the hilus, one sees a thickening of some of the larger subdivisions of the bronchial tree, especially of the paravertebral bronchus and those going to the first and second interspaces.

This picture of itself is not pathognomonic of tuberculosis as it may be caused by other inflammatory diseases of the lungs.

Should this appearance show in the lower lobes, it would be even more difficult to call it tuberculosis.

At times, however, we find in this type of lesion where the bronchi branch, small collections of tubercles or even calcific foci. This is a more typical appearance and can then be diagnosed with a great degree of accuracy.

At a later stage, when the alveolar spaces are infiltrated, this picture may resemble that of a tuberculosis broncho-pneumonia.

In this type then, too, we cannot always definitely diagnose the case, but can say there is a lesion in the lung, the nature to be determined by other measures.

The parenchymal type is considered the type which is most definitely pathognomonic, but even here we have difficulty at times.

This type includes the ordinary chronic pulmonary forms of various stages, with fibrosis and cavitation, and the pneumonic and bronchopneumonic forms. This is a lesion involving the alveolar spaces.

The appearance considered typical is the presence of tubercles—collections of the microscopic tubercles—first described by Cole. These are areas of greater density, irregular in outline, and varying in size. To be indicative of tuberculosis, however, they must occur in numbers in the parenchyma or along the larger bronchial tree shadows, and in the usual distribution of the tuberculous lesions. These multiple individual tubercles are generally accepted as the earliest X-ray evidence of tuberculosis.

Later these tubercles coalesce and we get a definite picture of consolidation, either pneumonic or broncho-pneumonic in type. This picture then is with the greatest difficulty distinguished from lobar pneumonia, influenza or broncho-pneumonia.

Later when cavitation occurs, we are often put to it to distinguish tuberculosis from mycotic disease, lung abscess or necrotic tumor.

The milary form occurs as numerous small rounded foci, varying in size, scattered extensively through the lungs.

This form of tuberculosis is particularly devoid of physical signs and we are told that the X-ray picture is typical. But remember these tubercles must attain sufficient size to be visible, and many a patient dies with a negative X-ray plate when autopsy reveals the condition. Also, this picture may be simulated by miliary carcinomatosis or by lymphatic leukaemia.

What then have we learned concerning the value of the roentgen ray in pulmonary tuberculosis?

We have learned that the pathology of pulmonary tuberculosis simulates and can be simulated by any other disease of the lungs grossly, just as syphilis likewise can simulate any other condition of the body.

The value of the X-ray is in revealing an abnormal condition in the lungs, and if possible, giving it a proper interpretation, a thing often impossible to do without recourse to other clinical methods. Its most valuable use in pulmonary tuberculosis is in confirming a clinical diagnosis and showing the exact extent, location and character of the lesion. It also has a definite value in ruling out or proving tuberculosis in cases with doubtful physical signs.

However, bear in mind that cases do arise with no physical signs, a negative X-ray and a positive sputum.

It is often said that when physical signs are at variance with the X-ray findings, greater stress should be laid on the X-ray. This is not always the correct attitude to take. If there are no physical signs, and the X-ray reveals a lesion, by all means place more stress on the X-ray. Very often this occurs. But remember conversely that at times cases occur with definite physical signs—mainly, old healed cases or very early cases—and do not rule out tuberculosis, because the X-ray plates do not reveal a lesion as this does occur.

Best results will always be obtained by the use of all the available methods of diagnosis and a proper analysis of the findings.

As long as the X-ray diagnosis of tuberculosis is not an exact scientific procedure, as is the diagnosis of fractures, and the supposedly characteristic X-ray appearances of tuberculosis are not pathognomonic, but may be presented by other conditions, clinical data must remain a more or less deciding factor in the interpretation of a certain percentage of cases.

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The Present Status and Surgical Treatment of "Mouth Pathology"*

Bertram B. Machat, D. D. S.
Brooklyn, New York

SO MUCH has come to light in recent years concerning mouth pathology that the general practitioner is daily confronted with problems arising therefrom. Hence, a clear understanding of the nature and methods of elimination of the pathology most commonly met with, is the purpose of this paper.

To the perfection of local and zone anaesthesia as well as to the evolution of diagnostic agencies in the detection of insidious mouth pathology, is due the great increase of mouth surgery.

Systemic disease, so far as it manifests itself by a multiplicity of vague symptoms, frequently a syndrome of the toxemia attributable to closed focal infections, is now repeatedly traced to dento-apical pathology.

In 1911, following a protracted illness, which was then characterized as a "low grade infection," the writer had a tooth extracted (not unlike millions of teeth similarly existing in the mouths of persons this moment) and within three months, regained his health and twenty-two pounds in weight. Having previously exhausted every means of investigation and treatment then known to medicine, without result, and having personally experienced such marked recovery following the removal of a symptomless tooth, it was natural and logical, that the patient, himself a dentist, should give that experience intensive thought and investigation. Consequently, patients who were possessed of pulpless and completely devitalized teeth, were thereafter closely questioned concerning their general health. Frequently, too, the family physician was consulted and his services enlisted, so that many, very many patients presenting so-called devitalized teeth coincident with hypotonia, or general depression, arthritis, etc.; were advised to have their diseased teeth exhaustively treated or removed, with what proved then, astounding success.

Coincident with this work, it will be recalled that since 1911, epochical contributions upon "Mouth Sepsis," appeared in medical and dental literature, notably those of Hunter in England and Billings, Moorehead, Barker, Rosenau, Hartzell, Henrici and a host of other clinicians and investigators in this country.

Their findings gave general impetus to this borderline work and stimulated dentists to investigate the various claims from the standpoint of their work. Today, dental literature is replete with information confirming these claims; and now, since the relation of diseased teeth to general health is better understood, it is intended here to make known my experiences in private and hospital practice, as well as laboratory investigation in a decade of intensive borderline work.

Clinically (in collaboration with associates) we have treated over

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*Special lecture before the Medical Society of The State of New York, at its annual meeting, May 4, 1921.

3,000 medico-dental cases and there is ample evidence to justify the statement that over 60 per cent of these patients have benefitted by the removal of intrinsically and periapically diseased teeth (commonly spoken of as "devital" or pulpless teeth), and usually the symptomless variety. While pyorrhea alveolaris and various oral diseases that have been encountered and exhaustively treated, have yielded many cures, we feel nevertheless, that our best results have been obtained in the elimination of pulpless teeth. These findings we believe coincide with similar work done by other dental practitioners.

E. E. Irons *(Journal of American Medical Association,* of March 5th, 1921) claims that "infections of the mouth stand first in point of frequency as a cause of metastatic infection." To this statement may be added that potentially, the great prevalence of disease in pulpless teeth constitutes the most common and refractory type of pathology in the mouth.

In an earlier report (3) wherein the results of a differential bacteriological study of approximately 1,000 teeth is given; we find the following points of interest:

(*a*) "Mixed coccus infection is usually found in connection with cases of extensive apical involvements."

(*b*) "Devitalized teeth with negative *radiographic findings* commonly yield a pure streptococcus."

(*c*) "When specimens from several teeth of our patients were cultured, similar morphological grouping was found in all."

(*d*) "In a few instances the same organism was recovered from the blood."

(*e*) "The presence of rods and spirilla on the microscopic slide is evidence of contamination. Such findings, however, are rejected."

Supplementary work done along these lines since the above mentioned publication substantiates these findings and strengthens our position with regard to the pathogenicity of pulpless teeth. (4) Considering, too, the correlation of the removal of such teeth with remarkable recoveries as observed by the writer, in every day practice, it appears conclusive that a pulpless tooth ,such as we commonly observe, is first, last and always a potential source of general disease. So, too, a tooth with a vital pulp, but having a diseased pericementum which is irresponsive to local surgery and susceptible to pocket and pus formation, presents an unfavorable prognosis.

Despite this constructive evidence of the pathogenesis of pulpless teeth, several articles have appeared of late, which tend to confuse and discourage the general practitioner with regard to the significance and elimination of such teeth.

Claims are made that pulpless teeth are being indiscriminately sacrificed, yet it is common knowledge that countless patients have been helped and perhaps saved; and who can gainsay that one patient saved, may compensate for all the "dead" teeth that were lost.

We have heard many dramatic statements in which the loss of pulpless teeth are classed together with unwise tonsillectomies and appendectomies. But these are altogether different problems. Dentine, when devitalized, unlike any other tissue in the body, is incapable of autogenous repair. And who would compare in functional value, one of a complement of thirty-two teeth to a tonsil; or the operation of the removal of a tooth with an appendectomy? It would seem that even as a preventive measure, such teeth should be drastically dealt with. Those who decry such attitude are not cognizant of the fact that no one has yet demonstrated how multi-rooted pulpless teeth may be practically and safely conserved. Neither have we any positive formula or index by means of which the general practitioner may differentiate between pulpless teeth that are pathogenic from those that are innocuous.

Certainly it is not the purpose of this paper to encourage promiscuous tooth pulling; for this, as a practice, is detrimental to the health and best interest of the patient. But it should be emphasized that so long as the question, *i. e.*, when may a pulpless tooth be considered safe? remains a matter of academic discussion, much less harm will result from surgical eradication of these, than in misguided root canal therapy.

However, as a sound practice, it should be the aim of those who are concerned with this borderline work to scrutinize teeth rigidly; rule out vital teeth and retain such pulpless teeth that are well within the scope of the dentist to render safe, and within the ability of the patient to meet the expense for this service; and then leave to the physician's discretion the advisement upon such other teeth whose prognosis is unfavorable.

Certainly this calls for competent dental consultation, backed up, not by pictures alone, but by mature clinical and preferably, bedside experience as well.

One of the difficulties in medico-dental practice is the much abused agency of the X-ray. The alluring literature and prices of commercial purveyors of "X-ray Diagnosis,' have led physicians to accept the sterotyped "set" of pictures for an oral diagnosis. This is misleading as it is harmful; for many functional and otherwise harmless teeth are designated as pathologic ,and in turn are slated for removal; and whether or not the dentist concurs in such practice, certainly the results are unsatisfactory and disappointing. It should be understood that even where pictures are well executed and correctly interpreted, only 40 per cent of mouth pathology may thus be revealed (average); hence only part of the pathology may thus be eradicated. Aside from that, neither the physician nor the radiologist can designate the work which must follow the diagnosis, it essentially being the work of the dentist. Such loose and disconnected procedure inevitably leads to failure and stigmatizes a practice which, when consistently and exhaustively carried out, is commonly attended by brilliant results.

It is several years now since the writer pointed out the need of, and introduced a procedure of mouth diagnosis "by exclusion." In this method (1) each tooth must be ruled out or the pathologic condition demonstrated. In connection with this procedure, testing of teeth for pulp vitality (electro-diagnosis) (2), is absolutely indispensable to a correct mouth survey. For example, we have reported *(Journal of Dental Research,* September 1921), a case of a young woman with an interesting medical history, who for six weeks was treated along expectant lines by a prominent surgeon for a submandibular swelling. During this period, repeated X-ray findings proved negative. In line with our method, a bicuspid tooth in the affected region was found "devital" and diseased. The tooth was removed and the patient recovered. In this case, we have clearly demonstrated cause and effect, for in addition to the clinical course, we have recovered a pure streptococcus from the apical contents of the tooth, both, before and after operation.

Even, with all this evidence before us, it should be understood that diagnosis cannot always be reduced to a mathematical formula. However, closer coworking and reciprocal application in the future between physician and dentist, will more clearly approach this objective.

In an endeavor to link up mouth pathology with systemic disease, we have undertaken (in spite of discouraging advice) the routine examination of blood pressure of patients presenting medico-dental histories. The result of this work will be published in due time. Already enough evidence has been accumulated by us to recommend this procedure as a routine practice by everyone concerned with oral diagnosis, in medical cases. I have not the exact figures before me, but I feel certain that upwards of 1,500 patients have been examined by us and checked up from time to time. *The common incidence of a marked low blood pressure of patients with pulpless teeth, is most noteworthy.* I am safe in stating that at least 80 per cent of the patients that we examined, presented that condition. Variations of pulse pressure are less common but of equal importance.*

At present we are working upon a follow-up of blood pressure in patients who have been operated upon and although we are not yet prepared to offer a report, we are safe in stating that the results so far have been most encouraging.

There are various methods in the management of pulpless teeth. The dentist is loath to concede that a tooth with well filled canals and which presents no evidence of pathology in the X-ray is detrimental to the health of his patient. And while we agree that such a standard under certain conditions of youth and health minimizes the chance of infection and is therefore an acceptable alternative to extraction, we cannot ignore the fact that in our study of over 12,000 pulpless teeth, we found that less than 30 per cent of single rooted teeth and only a fraction of 1 per cent of multi-rooted teeth obtained that standard.

To the clinician who is treating a refractory case of infectious origin, there can be no speculation about an admittedly infectious tooth. Already he has eliminated tonsils, sinuses, blood and gastro-intestinal contents, to him the elimination of the tooth is a logical procedure.

To the writer, the position concerning the so-called non-vital tooth is clearly defined. Excepting the few cases where the health of the patient, extraordinary operative skill, unlimited time and a considerable fee present no problem, when multi-rooted pulpless teeth *may* be successfully conserved, such teeth, however (generally molars), under contrary conditions present a poor prognosis, and extraction is therefore advised. Single rooted teeth on the other hand, treated along surgical lines, may, to a very large percentage be retained. These teeth, because of their position in the mouth are easily accessible and it is our method to open into these teeth, sterilize, curet, fill the canal and immediately follow this up by a transalveolar operation. Under conduction anaesthesia, even teeth that are acutely involved have thus been treated with excellent results. A remarkable point about this procedure is that post-operative pain is rarely a complication.*

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*Since this writing we have tabulated 300 cases in ages varying from 22 to 74 (both sexes). These presented a systolic from 25 to 33 per cent below normal in 241 patients. Those presenting high tension, but in no case above 210 systolic, were 28, while 31 patients presented approximately normal blood pressure.

It should be understood that no method of treatment is an absolute safeguard against infection, but we believe that this procedure minimizes the chances of infection to a point consistent with the indispensability of the tooth.

Pyorrhea alveolaris, is another important consideration in the study of mouth pathology .

Unlike pulpless teeth which are practically always primary foci, peridental pathology (pyorrhea alveolaris) frequently may be taken as a manifestation of disease elsewhere in the body. Hence, in the treatment of pyorrhea alveolaris the coöperation of the physician is as frequently imperative. Nevertheless, tissue that has become hopelessly diseased in turn, becomes a menacing factor that calls for radical treatment; especially is this true of the supperative type.

In our practice, in the treatment of pyorrhea alveolaris surgical measures rather than dental palliative treatment is found most effective and economical. For this work, procaine anaesthesia is ideal, especially in the blocking method. It enables us to clear up in one sitting the zone covered by the anaesthesia.

Unerupted and impacted teeth present another prolific field in the study of mouth pathology. According to many authors, these teeth are often the insidious sources of various forms of neurosis and psychosis, as well as of local pathology.

I may add, that the most dramatic results experienced in my practice followed the removal of certain unerupted or impacted teeth. For example (case 1) I examined a girl age 16, with a refractory maniacal complaint. I found three pulpless molars and four unerupted but (even at this early age), impacted third molars. While I recommended the removal of these teeth, I advised that this procedure be deferred until the medical specialist in the case had given certain hormone treatment (as advised by him) a fair chance. One year later the patient returned unimproved and at this time we proceeded with our proposed operations, which were accomplished in four visits. The patient completely recovered, and at this writing, three years since the teeth were extracted, we are assured that the young lady is at present an active associate in her father's business.

Case 2 (manic depressive). This patient, a young man age 23—typical depressive (religious and suicidal) was examined and found to possess three abscessed molar and bicuspids and one impacted cuspid. The history was of two years' standing, during which period a close vigilance over the patient was necessary, and treatment futile. The first coherent intelligent sentence this individual uttered, followed the removal of two devital teeth. Ten days later we removed the cuspid, and the following day relapse occurred and the patient became unmanageable. I then conferred with Dr. Henry A. Cotton, medical chief of the N. J. State Institution for mental defectives at Trenton, N. J., with a view to having the patient committed in Dr. Cotton's care. While negotiations were going on during which Dr. Cotton was very cordial, the patient recovered. Within several months from the time of the last operation, the young man was intrusted with the responsibility of driving a motor truck, and for some time after that the case was followed up, always testifying to a gradual improvement toward normal health and intelligence.

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*This operation is described in another paper, entitled, "The Surgical Route in the Conservation of Pulpless Teeth."

Impacted molars accidently revealed, but giving no untoward symptoms have in certain cases been kept under surveillance by me. Not infrequently, however, subsequent symptoms indicated the removal of these. In 1917 I examined a man age 50 whose only oral abnormality was an impacted unerupted lower third molar. Apparently (radiographically and clinically) it gave no trouble and considering the age and good medical history of the patient I decided to leave this tooth in situ, subject to surveillance. In November 1919 he returned complaining of headache-gastro-intestinal trouble, right otalgia, bad taste in the mouth, loosened teeth, etc. An X-ray plate at this time revealed extensive pathology in the impacted region (see Fig 1) and we removed the tooth and cureted the diseased bone. The patient recovered entirely.

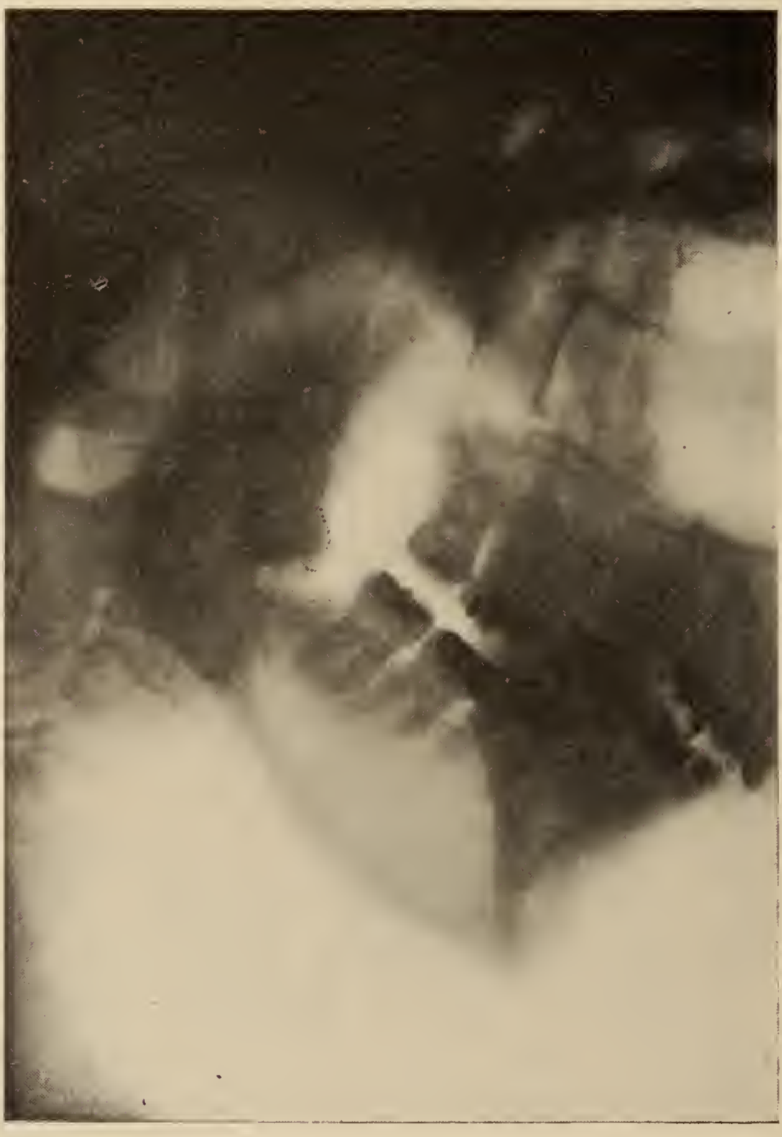

Fig. 1

Neuralgia.—Facial neuralgias and headaches, etc., in their symptomatic or etiologic significance present, indeed, a baffling subject. While the X-ray has proven of inestimable value in clearing up many cases of tic, still, frequently the underlying pathology eludes every known investigation.

In this connection dental or peri-dental pathology may be the elusive agent. Already we have pointed out the rôle that impacted teeth play in the causation of neuralgia, neurosis, psychosis, etc. In addition, we must emphasize that disease of the dental pulp and of the extradental tissues are most frequently responsible for these complaints.

Where mixed dental lesions obtain, diagnosis becomes a difficult problem. Here even a differential dental investigation may fail to localize the etiological factor. Thus we may have coexisting in various parts of the mouth, dental caries, apical abscesses, deep alveolar pockets, impactions, traumatic fillings and crowns, etc.; any one of these may be the direct cause of referred pain; still, work may go on for a long period without localization of the offending tooth. In these cases I find nerve blocking of inestimable value. I use "Novol" procaine and block each zone separately. Cessation of pain indicates that the offending pathology has been located within the anesthetized zone and concerted investigation is then limited to this group of teeth. On the other hand, where for instance, the injection of the mandibular nerve fails to relieve the patient, the maxillary branches are then anesthetized: and so on, until the seat of the trouble is located, or the mouth altogether ruled out.

Infected teeth which are productive of sufficient local irritation to cause referred pain, such as hemicrania, otalgia, etc., will yield to the temporary effect of block anesthesia: generally, however, the rôle that these teeth play in the production of various forms of headache and facial neuralgia is indirect. The common incidence of headache in connection with diseased teeth, we believe, is due to toxic absorption, rather than referred pain. This is frequently proven in the relief obtained following eradication of dental foci of infection.

In conclusion, let me emphasize the point already made, that unlike any other tissue in the body, teeth when diseased are incapable of autogenous repair and unless early mechanical or surgical attention is given, these become a menace to health; and since dental disease is most prevalent, it behooves the physician as well as the dentist, now, in this era of prevention, to be watchful of the most common portal to the human body—*the mouth.*

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1. "Oral Diagnosis," Machat; *Dental Items of Interest,* October 1918.
2. "Dental Electro Diagnosis," Machat; *Dental Cosmos,* February 1919.
3. "The Significance of Pulpless Teeth in Health and Disease," Machat; *Cosmos,* March 1920.
4. "Causes, Prevention and Treatment of Post-Operative Pain Following Oral Operations," Machat; *Cosmos,* September 1920.

Minutes of the Twenty-fourth Annual Meeting (71st Regular Meeting) of the Associated Physicians of Long Island

THE Twenty-fourth Annual Meeting of the Associated Physicians of Long Island was held at St. Mary's Hospital, St. Marks and Buffalo Avenues, Brooklyn, Saturday, January 28th, 1922, the business session being called to order at 3 o'clock by the President, Dr. Harris A. Houghton. As the minutes of the October, 1921, meeting had been published in the Long Island Medical Journal the reading was dispensed with, by general consent.

The Membership Committee presented the following names for the consideration, and action of the society at this meeting, the names having been printed on the notices of the meeting:

Proposed by Dr. Charles H. Goodrich—
  Dr. William Byron Agan, 510 Third Street, Brooklyn, N. Y.; College of Physicians and Surgeons, New York, N. Y., 1912.
Proposed by Dr. William Browning—
  Dr. Horace Garfield Dunham, 44 Sidney Place, Brooklyn, N. Y.; Jefferson Medical College, Philadelphia, Penn., 1913.
Proposed by Dr. Luther Taylor Jackman—
  Dr. Louis P. G. Gouley, Huntington Station, N. Y.; Denver and Gross Medical College, Denver, Colo., 1908.
  Dr. George H. Donahue, Northport, N. Y.; College of Physicians and Surgeons, New York, N. Y., 1882.
Proposed by Dr. James Cole Hancock—
  Dr. Leon Joseph Grant, 341 First Street, Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1915.
  Dr. William E. Skidmore, 395 Park Place, Brooklyn, N. Y.; Long Island College Hospital, 1913.
  Dr. Warren Seabury Simmons, 123 Parkside Avenue, Brooklyn, N. Y.; College of Physicians and Surgeons, New York, N. Y., 1892.
  Dr. George William Cumbler, 137 Twenty-third Street, Elmhurst, N. Y.; University and Bellevue, Medical College, New York, N. Y., 1920.
  Dr. Edwin Thomas Redmond, 111 Carroll Street, Brooklyn, N. Y.; Eclectic College, Cincinnati, Ohio, 1916.
  Dr. George W. Faller, Oyster Bay, N. Y.; New York University Medical College, 1878.
  Dr. J. Frank Ryan, 82 Schermerhorn Street, Brooklyn, N. Y.; Queen's, Canada, 1915.
  Dr. Adelbert Stephen Dederick, 1223 Bushwick Avenue, Brooklyn, N. Y.; Albany Medical College, Albany, N. Y., 1906.
  Dr. Joseph B. L'Episcopo, 687 Bushwick Avenue, Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1914.
  Dr. James M. Schmidt, 40 South Oxford Street, Brooklyn, N. Y.; University of Michigan, Ann Arbor, Mich., 1919.

All of the above were, unanimously, elected to membership in the society.

The following report of the Historical Committee was ordered received and placed on file:

REPORT OF THE HISTORICAL COMMITTEE

Our first duty, as in former years, is to pay respect to the memory of our departed associates, many of whom have advanced beyond the ordinary, all have been honored members of our profession and a credit to the city in which they lived. With this feeling their names are here recorded:

1905-1921	Burr Burton Mosher, M. D., January 31st, 1921.
1917-1921	Frank Proal Hatfield, February 5th, 1921.
1912-1921	Walter R. Iszard, M. D., February 17th, 1921.
1911-1915	Leo John Joseph Commiskey, M. D., April 15th, 1921.
1904-1921	Julius Carl Bierwirth, M. D., May 2d, 1921.
1905-1921	Frederick William Wunderlich, M. D., May 16th, 1921.

1915-1921 Emil Frei, M. D., June 12th, 1921.
1912-1916 Robert Matthew Ulrich, M. D., July 27th, 1921.
1900-1921 Rupert Folger, M. D., November 12th, 1921.
1916-1921 Garrett Kouwenhoven William Schenck, M. D., December 6th, 1921.
1903-1912 John Rankin, M. D., December 21st, 1921.
1911-1921 Albert Myers Van Sickle, December 27th, 1921.

During the year the names of forty-five physicians were presented for membership representing the following named universities, and medical colleges:

University of Georgetown	1
University and Bellevue	4
University Fordham	4
University Pennsylvania	1
University Johns Hopkins	2
University Vanderbilt	1
University Yale	1
University Cornell	2
University Oregon	1
Long Island College Hospital	11
College of Physicians and Surgeons, N. Y.	8
Bellevue Hospital Medical College	2
Medical College of Virginia	1
Buffalo Medical College	1
New York Homeopathic	3
Hahnemann Medical College, Philadelphia	1
Hahnemann Medical College, Chicago	1
Total	45

The Long Island Medical Journal has continued to publish short obituary notices of our deceased members for which consideration we should say, "Thank you."

Let me at this time, as on former occasions, extend my best wishes for the success of our Association, and may prosperity and good fellowship prevail among the members.

William Schroeder, M. D.,
January, 1922. *Chairman of the Historical Committee.*

Ordered received and filed.

REPORT OF THE PUBLICATION COMMITTEE FOR YEAR ENDING JANUARY 1ST, 1922

To understand the prominent place that the Long Island Medical Journal occupies we have only to recall that there are now received two hundred and seven publications in exchanges. Seventy-one are American and one hundred and thirty-seven are foreign. This list has been printed in the recent numbers of the Journal and we only call your attention to it "lest you forget."

The number of copies of the Long Island Medical Journal sent out each month to medical libraries, medical publishers and exchanges in the United States and its possessions and to foreign countries is two hundred and fifty-six; thirteen to medical publishers; twenty-nine to medical libraries; seventy-four exchanges in the United States and its possessions, and one hundred and forty exchanges in foreign countries.

A year ago the committee called attention to the fact that the Kings County Medical Society Library received, as a gift, all the Journals sent as exchanges to the Long Island Medical Journal and also that the LONG ISLAND MEDICAL JOURNAL, through its review books and exchanges, is the largest and most important single feeder of the Kings County Medical Society Library.

The suggestion of the Publication Committee, adopted last year, that the President appoint a Committee of Three, one from Suffolk, one from Queens and one from Nassau, to confer with the Directing Librarian (of the Kings County Medical Society) for the purpose of representing and considering the mutual relation of the library and the Island men has been carried out.

The President appointed Dr. William H. Ross of Brentwood, Dr. Arthur D. Jaques of Lynbrook and Dr. L. Howard Moss of Richmond Hill.

The committee has studied the question to the best of its ability and has concluded that there is very little in the library line, outside of Kings County, that is practicable.

The committee does not believe there is any center on Long Island with a sufficient medical public to bear the expense of a library; and, also, that experience shows, that without a paid librarian it is of little use to start a library anywhere. The committee feels that we are better off with one large library than with many small duplicates.

There was an attempt some years ago to start a collection of books at the Nassau Hospital in Mineola. The Kings County Library gave support to the Mineola efforts and probably would extend aid to any well-planned branch in the future, but at present there seems no possibility of anything in that line.

The committee suggests that there be made an abridged or concise list of books most generally used and going back no more than five years, and that this list be sent to members of the Associated Physicians outside of Kings County, and that they be permitted to have books from the library under whatever regulation the librarian may dictate, and that a charge be made for wear, tear and postage. This would be a means of increasing the usefulness of the library to Island men. An Academy of Medicine to take over the Kings County library seems a fascinating possibility. The committee has no acceptable scheme to advance. It does not appear that enough support could be gathered to take over and swing the library side. In the opinion of your conferees, the interests of all medical men, in the four counties are as well conserved by the present plan of giving our exchanges and depositing our books as by any that we can now offer.

The committee reports that it has been necessary to change publishers, because of delay upon the part of the publishers in getting out every number. Competitive bids were received and the Suffolk Printing and Publishing Company of Mattituck, Long Island, has been selected as publishers for the coming year.

The committee makes the following recommendations:

1. That Dr. Henry G. Webster be elected editor for the coming year at a salary of $1,200.00, including clerical hire.
2. That an assistant editor be engaged at a salary of $100.00 a year.
3. That, because of the suggestion made from two or three sources,

we might have for Long Island, the four counties, a small folder, published weekly, giving a list of coming medical events, general news and legislative news, issued weekly, with unfailing regularity, and mailed not later than Saturday morning.

Many medical centers have found a similar plan of great value and interest.

We recommend that the incoming President appoint a Committee of Three, or such number as he deems necessary, for the purpose of considering this matter, and report to the society at the coming June meeting. Only one stipulation need to be inflexibly adhered to, namely: that in the event of a decision to establish such a publication that it is to be published under the auspices of the Associated Physicians of Long Island.

The cost of the Journal this year is $5,083.00, $880.00 less than last year, and within the average of the last ten years. The income from advertising is $4,158.00, greater by $778.00 than last year. The financial affairs of the Journal are in good condition.

We make our usual plea. That each one of you help the Journal all you can. If we had money enough we would make it the greatest journal in America. Everybody would like to see it grow. It will grow anyway, but exactly in proportion to the amount of push that we, individually, give.

Somebody has defined success as continually pushing in one direction; let us apply it to the LONG ISLAND MEDICAL JOURNAL.

This completes the sixteenth year of the Journal's life. It starts the seventeenth year with a better outlook than any hitherto. We have passed the World War period. There are no clouds in sight. In closing we quote a paragraph from the last year's report:

"The committee wishes you to remember that the LONG ISLAND MEDICAL JOURNAL has a larger circulation by exchanges than 99 per cent of the journals of the United States. It is one of the chief channels, therefore, of spreading medical literature in this country and is surpassed, in this respect, by few in the world, because of its larger number of foreign exchanges."

Any organization shows the reason for its existence by the place it fills; in other words, by the amount of work it does. This test can be fairly applied to the Associated Physicians of Long Island.

WILLIAM H. ROSS,
FRANK OVERTON,
FRANK T. DE LANO.
The Publication Committee.

The society ordered this report accepted, filed and the recommendations adopted, January 28th, 1922, at the annual meeting.

MR. PRESIDENT: Your Secretary has to report that there are 917 members in the society and that there have been 9 deaths and 3 resignations.

Respectfully submitted,
JAMES COLE HANCOCK,
Secretary.

The report of the Treasurer was presented and placed in the hands of the Auditing Committee, Doctors H. D. Schenck and W. J. Malcolm. The report follows:

RECEIPTS

Balance on hand February 1st, 1921	$ 881.99
Society dues received	1,191.50

Dinner dues received	639.00	
Advertising charges received	4,158.48	
Interest of account, Brooklyn Trust Co.	17.14	
		$6,888.11

DISBURSEMENTS

Printing of Journal	$3,619.16	
Dinner expenses	623.55	
Postage Cooperstown Post Office)	79.06	
Printing of society, stationery, etc.	258.50	
By C. L. Stone, cards, stamps, filing cabinet, etc.	37.10	
Salaries—Dr. Webster and secretary	1,200.00	
To Leslie Childs (special articles)	12.00	
H. G. Webster—petty cash	49.73	
To Kings County Medical Society—addressing, etc.	60.82	
To Earl Whitfield (special plates)	52.27	
To J. C. Hancock—petty cash	33.90	
To check lost in transit to clearing house	3.00	
Balance on hand in bank, January 1st, 1922	859.02	
		$6,888.11

Respectfully submitted, January 1, 1922.

CHARLES L. STONE,
Treasurer.

The report of the Nominating Committee was presented by the Chairman, Dr. Elias H. Bartley, and was as follows:

The Nominating Committee presents the names of the following for officers of the society for the year 1922:

For President, Dr. Joshua Marsden Van Cott, of Brooklyn, N. Y.

For Vice-President, Dr. Hugh Halsey, of Southampton, N. Y.

For Second Vice-President, Dr. Arthur David Jaques, of Lynbrook, N. Y.

For Third Vice-President, Dr. L. Howard Moss, of Richmond Hill, N. Y.

For Fourth Vice-President, Dr. Herbert Dana Schenck, of Brooklyn, N. Y.

For Secretary, Dr. James Cole Hancock, of Brooklyn, N. Y.

For Treasurer, Dr. Edwin Syme Moore, of Bay Shore, N. Y.

There being no nominations from the "floor" the Secretary was instructed to cast one ballot for the election of the above. This was done.

The Scientific Session, of which the program follows, was in charge of the hospital staff and was most interesting and instructing.

About sixty sat down to a good dinner, thoroughly enjoyed, at the Hamilton Club.

JAMES COLE HANCOCK.
Secretary.

EDITORIAL

What Constitutes State Medicine?

The March bulletin of the National Tuberculosis Association contains the following statement which we note in full because it shows a point of view that is a little different from what physicians as a whole have taken in regard to "State medicine":

"Illinois Combats 'State Medicine' Objection

"The Illinois Tuberculosis Association is distributing a pamphlet dealing with the tuberculosis clinic as it is conducted by the Association. In view of the fact that many physicians in the State are more or less antagonistic to what is termed 'State medicine,' the Illinois Tuberculosis Association explains in detail the purpose of its clinics.

" 'The clinics are diagnostic clinics. They have nothing to do with the treatment of patients. They are held only in conjunction with the county medical society or the local medical profession. The individual local physicians are invited to bring their own patients to the clinics or to express their approval of their patients being invited to the clinics. The clinics are held chiefly with the medical profession, for the medical profession and by the medical profession.

" 'Nurses and other arranging clinics are particularly urged not to present patients for examination except with the approval or in the presence of the patient's family physician. When the family physician is unable, for any reason, to attend the clinic where his patient is examined, the nurse is expected to convey to the family physician the diagnosis and suggestions made by the clinician. The case records and graphic charts are left in the community and should be available to the patient's physician at all times'."

The Illinois Tuberculosis Association takes the stand that tuberculosis is a widespread menace to the public health; that the general co-operation of all citizens is essential in combating it; that it is therefore competent for the State as representative of the people to use any and all of its powers in the effort to overcome this widespread disease. It recognizes what physicians are unwilling to concede, that the forces of the medical profession are not closely enough knit together to supply effective material by themselves and that therefore co-operation is essential.

The objection on the part of the medical profession to "State medicine" rests on the conviction that State control hampers proper scientific growth for two reasons. First, because individual initiative is subordinated to centralized authority and second, because State control is all too apt to be dictated by political expediency which permits lay influences to control situations that demand the highest scientific qualifications. It is too often true that physicians fail to realize the necessity for assuming the initiative in matters of public health. It is often true that they permit themselves to drift into a prejudiced opposition to measures for public health betterment that contain some elements that they should approve. On the other hand their opposition to proposed public health legislation is in large measure justified because many excellent measures are made the cloak for political jokers that the profession recognizes and condemns. Take for instance the Maternity Welfare situation. No reasoning physician will object to conscientious efforts looking to the prevention of maternal and infant mortality and he will approve any measures which will definitely lessen such dangers; but he is right in opposing a measure which, while it ostensibly helps expectant mothers, is administered by a lay bureau having nothing to do with the ostensible object of the bill and which creates a very considerable number of positions for political hacks.

To revert to the tuberculosis clinics and incidentally to the question of rural clinics in general, it is of interest to note that the idea seems to have been brought forward simultaneously in several sections of the country and has been favored by many physicians whose standing in the community places them above suspicion of injuring their fellow practitioners even in thought. It is quite logical on the part of the public, that having recognized the good points of such clinics they should demand whatever seems to offer the advantages that are inherent in such a plan. For physicians to put themselves in unreasoning opposition is bound to excite prejudice against the profession unless they can show that there are inherent weaknesses enough to make the plan unfeasible. Physicians must recognize their obligation to be leaders in public health. They must plan so as to invite public co-operation. They must recognize that the general public is reading and thinking and reaching out for better treatment, better methods, greater knowledge. If the profession blinds itself by prejudice, or shows itself to be intolerant, or wilfully tenacious of prerogative, then it invites the very thing which it recognizes as its worst enemy, "State medicine," because "State medicine" in the ultimate analysis is merely the force of public opinion compelling the profession to do involuntarily what with proper foresight it can accomplish for itself.

H. G. W.

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

1922

4 Pages

Diseases of the Eye

SES OF THE EYE. A handbook of Ophthal-
practice for students and Practioners. By
ge E. de Schweinitz, M. D., LL. D. Ninth
ion, reset. Phila. and London, W. B. Saun-
Company, 1921. 832 pages, 415 illustrations
7 piates. 8vo. Cloth, $10.00.

ninth edition of this work has re-
appeared from the press. The book
ins 832 pages, with 415 text ilustra-
and 6 chromo lithographic plates,
of the illustrations being new, and is
cellent example of the publishers' art.
of interest to the student of opthal-
gy, because much of it has been
tten and revised, and a considerable
nt of new material incorporated since
ast edition was published four years
Much that is new is the result of the
guished author's observations during
ate World War, and he has drawn
ly from the military experiences of
lf and others in describing the latest
most approved operatives procedures.
e author has covered the whole subject
phthalmology so exhaustively and yet
ncisely, that it is a difficult matter for
eviewer to point out in a few words
points which distinguish this edition
former ones and from other works
the subject.

ne hundred page section on operations
much value, describing the preparation
e field, instruments, dressings, sutures,
al, local and infiltration anaesthesia,
haemostasis and the technique of
operative prcedures, including the
grafting operations of H. D. Gillies
ohn M. Wheeler, and Maxwell's oper-
for contracted socket, Verhoeff's
otomy and Scleral trephining for the
condition.

e Sweet method of localization of foreign bodies by the X-ray is described thoroughly in the Appendix, a subject that is becoming increasingly more important.

New procedures in diagnosis and treatment have been gone into on a scale not usual in text books and a large number of foot notes referring to important publications have been inserted for the benefit of those desirous of studying the original articles.

This work deserves a large circulation, as it is the most thoroughly satisfying Ophthalmology that has as yet appeared from the pen of an American author.

James H. Andrew.

Ephriam McDowell, "Father of Ovariotomy."

EPHRAIM McDOWELL, "FATHER OF OVARIOTOMY" AND FOUNDER OF ABDOMINAL SURGERY. By August Schachner, M. D., F. A. C. S. Philadelphia and London, J. B. Lippincott Company, 1921. 331 pages, illustrated. 8vo. Cloth, $5.00.

This work is primarily of interest to medical bibliophiles, for it is an unusual work on an important subject, but from the literary, rather than the technical point of view. It is of interest also to the gynecologist, for it emphasizes what his specialty did for abdominal surgery, and the interest will keep this book upon his shelves. The average medical man may feel that it contains too little of special interest for him to own it, but for library circulation it should prove of value, for it is a delightful history of a pioneer in American life, as well as in surgery, and also it is the story of a pioneer in the part devoted to that courageous woman who first consented to such surgery.

The reviewer will not go into details of this work, but urges all to read it, particularly as something to stimulate our idealism in the present day development of materialism.

E. B.

Public Health Surveys.

PUBLIC HEALTH SURVEYS. What They Are; How to Make Them; How to Use Them. By Murray P. Horwood, M. S., Ph.D., Instructor, Department of Biology and Public Health, Massachusetts Institute of Technology. New York, John Wiley & Sons, Inc., 1921. 403 pages, illustrated.

This book admirably answers its purpose—to serve as a guide to all those who contemplate making public health surveys. The author considers the subjects in great detail and provides for practically every contingency.

The late Professor Sedgwick supplied a foreword, the final paragraph of which well expresses the reviewer's attitude toward the book: "The subtitle of the book explains its place and purpose; and those who are interested in the public health and who learn through its pages exactly what public health surveys are, as well as how to make and how to use them, will be grateful to the author for his painstaking labor. So also will all students and workers who value a safe guide into an immense and important field of the public service."

The illustrations are good and there are many; each serves its purpose of emphasizing some point in the text.

A bibliography is furnished enabling one to pursue further study of any particular subject. The index is excellent.

E. H. M.

Abdominal Pain.

ABDOMINAL PAIN. By. Prof. Norbert Ortner. Authorized translation by William A. Brams, M. D., and Dr. Alfred P. Lugar. New York, Rebman Company, 1922. 362 pages. 8vo.

This volume is written along the same lines as Schmidt's book on Pain. It not only discusses the differential diagnostic possibilities of abdominal pains, but utilizes other methods in making a diagnosis, such as the laboratory and X-Rays. A much better name for the book would have been Abdominal Diagnosis. As such it makes an instructive volume.

H. J.

Clinical Electrocardiography.

CLINICAL ELECTROCARDIOGRAPHY. By Frederick A. Willius, B. S., M. D., M. S. Phila. and London, W. B. Saunders Co., 1922. 188 pages, with 185 illustrations. 8vo. Cloth, $5.00.

This book is a general summary of the author's electrocardiographic studies at the Mayo Clinic. Very brief explanations cover the anatomy, physiology and technique of obtaining records, omitting to mention the many obstacles and errors to overcome in taking and interpreting electrocardiograms.

A summary of the mortality figures of 500 cases of auricular fibrillation, with his control series is presented. The most impressive pages cover the grouping of the various Q. R. S. complexes and the abnormal T. wave as they appear associated with prognosis in diseased conditions at the Mayo Clinic.

The arrhythmias are discussed separately, each accompanied by a few illustrative cardiograms and diagrams.

For one interested in heart conditions it is well worth the time to read, especially for comparative reference to prognostic data.

A. T. M.

Die Elektrizitaet Im Dienste Des Praktischen Arztes

DIE ELEKTRIZITAET IM DIENSTE DES PRAKTISCHEN ARZTES. Von Dr. W. Zuelchaur. Berlin, S. Karger, 1922. 164 pages, with 56 illustrations. 8vo. Paper, Mk. 24 plus 300% Valutazuchlag.

In reviewing this monograph, the reviewer finds this work of great value not only to himself, but to all physicians who are using electro-medical apparatus. In this short volume the author has produced a complete guide in the rational use of electro-medical instruments and attempts to give an idea as to their construction, their proper care and proper application along physiological lines.

Thorough knowledge of this work would entirely abolish the chaotic state in which the medical practioner finds himself in the use of electrical currents as a physical aid in the treatment of his patients, for Electro Therapy is the same as Drug Therapy. One must be acquainted with the derivation, action and proper dosage of a drug before prescribing it. No doctor would depend upon his druggist to tell him what drug is indicated in this or that pathological condition or how this or that drug is to be used. So it is with the succesful use of electrical currents. One must know how the current is made, the kind of current it is and why, how or where to use it.

This work by Dr. Zuelchaur can be classed as a Pharmacology of Electrical currents.

B. Koven.

ompendium Der Lichtbehandlung

PENDIUM DER LICHTBEHANDLUNG. Von
. H. E. Schmidt. 3. Auflage, Hrsg. von Dr.
o Strauss. Leipzig, Georg Thieme, 1921. 114
es with 49 illustrations. 8vo. Ausland: Paper,
. 60.-

iefly states the physics, history and
lopment of Heliotheraphy. Describes
various mechanisms and technique of
ication of Finsen light, Quarz lamp,
light, etc. Discusses dosage and hyper-
itiveness.

a chapter giving indications and results
eliotherapy are included, besides der-
logical diseases, tubercular conditions,
icularly of bones and joints, such as
dylitis and hip diseases. In the treat-
t of the latter conditions heliotherapy
t applied as the sole agent but rather
n adjuvant to the regular orthopedic
ods of extension and limitation of
on, etc.

application in numerous other dis-
, including renal conditions, anemia,
is discussed and its trial recommended.

M. B. R.

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ndriss der gesammten Roentgen-diagnostik.

DRISS DER GESAMMTEN ROENTGEN-
GNOSTIK INNERER KRANKHEITEN. Von
Fritz Munk. 2. Auflage. Leipzig, Georg
eme, 1922. 297 pages, with 193 illustrations.
Ausland: Cloth, Mk. 180.-

this small volume the author intends
ve only an outline of Roentgen diag-
in internal medicine. This is well
nplished in a very comprehensive man-
particularly as regards the diseases of
eart, lung and mediastinum. For its
it contains more real information than
ial. Its language is terse. It is rather
of the usual obsolete material, and has
wo small chapters devoted to theory
echnique of X-Ray. A few pages are
ed to the subject of the pneumoperi-
l method and its advantages.

e illustrations are copious, and while
r small and occasionally indistinct
are sufficient for their purpose.

M. B. R.

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buch Der Geschlechtskrankheiten

BUCH DER GESCHLECHTSKRANKHEIT-
Von Dr. Max Joseph. 8. Auflage. Leipzig,
g Thieme, 1921. 217 pages, with 54 illustra-
and 1 plate. 8vo. Ausland: Paper, Mk. 90.-

s unfortunate that circumstances com-
l the author to condense this edition,
ne would like to have had a fuller
nation of Professor Joseph's conservative and sane views on the handling and treatment of venereal diseases and their sequelae.

In spite of the condensation the book is well worth owning.

W.

Lehrbuch Der Hautkrankheiten.

LEHRBUCH DER HAUTKRANHEITEN. Von Dr. Max Joseph. 9. Auflage. Leipzig, Georg Thieme, 1922. 258 pages, with 63 illustrations and 2 plates. 8vo. Ausland: Cloth, Mk. 130.-

This is the ninth edition of Professor Joseph's well known work on diseases of the skin. It had been the hope of the author to have made this edition very much larger, but the cost of publication being so great he was obliged to condense much of the original text to make room for new matter. This is to be regretted, for the condensing has somewhat impaired the value of the book. The volume contains sixty-three illustrations, some of which are quite good, and a number of tables. The list of formulae is a valuable addition to the volume; many of them are well known while others show a skillful combination of proven remedies. This feature greatly enhances the usefulness of the work. Some of the pictures are good, but the majority are of questionable value.

W.

LABORATORY COURSE IN SERUM STUDY.

A LABORATORY COURSE IN SERUM STUDY, BACTERIOLOGY 208. By Hans Zinsser, M. D., J. G. Hopkins, M. D., Reuben Ottenberg, M. D. Second Edition, revised. New York, The Macmillan Co., 1921. 184 pages, interleaved. 8vo.

This is not a manual on immunity, but a syllabus of a practical course in serology. Teachers desiring to supplement theoretical instruction with illustrative experiments will find this course an admirable one, containing complete and concise directions for the performance of experiments.

Interne Diagnostik Am Krankenbett.

INTERNE DIAGNOSTIK AM KRANKENBETT. Von Dr. Walter Frey. Berlin, S. Karger, 1921. 196 pages, with 36 illustrations. 12mo. Cloth, Mk. 24 plus 300% Valuazuschlag.

This handy little volume is not a quiz compend. Very little of theory is mentioned and great stress is laid on history taking and methods of physical examination that can easily be carried out at the bedside. While very little that is new is written, yet the book is of decided value in the perfection of one's diagnostic ability.

M. A. Rabinowitz.

The Manner of Man That Kills.

THE MANNER OF MAN THAT KILLS; Spencer-Czolgosz-Richeson. By L. Vernon Briggs, M. D. Boston, Richard G. Badger, 1921. 444 pages, illustrated. 8vo. Cloth, $5.00.

The writer has taken the cases of three murderers and from a careful study of their lives with a very complete family history of one and a more or less complete family history of the other two, has endeavored to show that our system of jurisprudence, as applied in law, is wrong.

Dr. Briggs has selected three types of criminals, all more or less disordered mentally and upon these cases, has endeavored to show the need of early recognition of the mental defective in that a study of personality of these various types of individuals is necessary for the ultimate protection of society. He shows that they cannot compete with normal people in the various walks of life and are incapable of adjusting themselves to varying conditions. He further shows that environment has a very marked influence upon the future lives of these individuals, particularly when it is shown there is a defective heredity, these individuals are handicapped and never get a fair chance in life and that it is the duty of the State to endeavor to develop their capacities, correct, if possible, their inferiorities and make them self-supporting, law-abiding citizens.

The author points out that our criminal laws are ineffective in protecting society from these types of people and advocates the establishment of psychopathic institutions for the study of these cases. Also that such amendments be made in our criminal laws as will naturally protect society and, if possible, save the individual from himself.

In the three cases cited, Spencer, Czolgosz and Richeson, it would seem to me that the author shows well defined inferior mental types and further emphasizes a condition of mind in each that could properly be classified as mentally irresponsible (at times) from a medical viewpoint; but from the legal standponit, it would seem to me that these men were responsible under the law in that they did know the nature and quality of their acts and knew they were wrong. Perhaps in the Czolgosz case, there might be a difference of opin as to whether he knew his act was wro or not.

The book is well worth reading by phy cians and lawyers who are interested criminology.

E. E. H.

Papers From the Mayo Foundati Vol. 1.

PAPERS FROM THE MAYO FOUNDATION F MEDICAL EDUCATION AND RESEARCH A THE MEDICAL SCHOOL. I, 1915-1920. Pl and London, W. B. Saunders Co., 1921. 659 pa illustrated. 8vo. Cloth, $10.00.

This book contains a tremendous amo of "Material which will prove of real in est both to clinicians and investigato The contributors are mainly younger m bers of the Mayo Clinic staff.

Among the papers with reference to alimentary tract are Hunger in the Inf Determinations of Gastric Acidity foll ing Gastro-Enterostomy, Cancer of Stomach, Gastrojejunal Ulcers, A Stud the Arteries Supplying the Stomach Duodenum and their Relation to Ul Papers of special value to those intere in urogenital diseases are The Effect the Kidney of Various Surgical Proced on the Blood Supply, Capsule, and on Ureters; Infections of the Kidney; A St of Roentgenographic Findings in R Tuberculosis, and Carcimona of the P tate.

Under Ductless Glands are many arti showing excellent laboratory investigati and an excellent paper—A Preoperative Postoperative Study of Diabetic Pati with Surgical Complications. There excellent laboratory and clinical inv gations covering such a diversity of jects as Aneurysm, Blood Transfu Blood Coagulation, Juvenile Tabes, thelioma of Skin, Nervous System in P cious Anemia, Nerve Anastomosis, F Development, Empyema, Carcimona of Lung, Pelvic Tumors in Children, C and Fibrocistic Disease of the Long B Studies of Cholesterol, etc., etc.

This volume marks a distinct contr tion and enrichment to American Medi

M. A. RABINO

LONG ISLAND
MEDICAL JOURNAL

VOL. XVI JUNE, 1922 No. 6

Pellagra—Lantern Slide Demonstration

WARD J. MACNEAL, M. D.
Professor of Pathology and Bacteriology
New York Post-Graduate School and Hospital

I FEEL like offering an apology for coming to Brooklyn to speak to you about pellagra, because it is a disease which is extremely rare in this part of the world, and yet some of the first cases ever described in the United States occurred in this vicinity and were described by a gentleman belonging to the Kings County Medical Society. Of the cases which have been observed in recent years in Greater New York, a very large proportion have come from Brooklyn, so that doubtless some of the members of this society have had an opportunity to see pellagrins or will have an opportunity to see cases during the course of the year. In this city, however, pellagra is a medical curiosity rather than a disease of great practical importance.

Perhaps the chief interest in my discourse may be found in the epidemiologic method of studying disease by observing, first, if you will, the way in which a disease occurs in the human race. The work which I am going to present tonight is to a large extent an attempt at such a study—a study of a disease on a large scale among a large element of our population.

Pellagra may be defined as a definite disease entity which is characterized by manifestations on the part of, first, the digestive tract, second, the nervous system, and third, the skin. The manifestations of the digestive tract are those of diffuse inflammation. It may involve the mouth, the stomach or the intestine (nearly always the intestine); but it may simultaneously involve all of these parts of the digestive tract and may be accompanied by diarrhea. Manifestations on the part of the nervous system are always quite varied, the mildest being perhaps those of peripheral neuritis or the mere feeling of weakness, depression or something of that sort. In the severest grades there is an actual psychosis, complete lack of mental activity, or a condition of intoxication of the central nervous system, in which there appear jerky, muscular movements, a condition spoken of as central neuritis, often followed by death.

The most characteristic thing about pellagra is the skin lesion, and this is characterized not alone by its location, but also by its nature and by the course through which it passes. The characteristic location, of course, is on the backs of the hands and the adjacent forearms, and without a lesion on this part of the body no one is justified in making a diagnosis of pellagra. The lesion on the skin occurs as a red spot, an erythema, and goes through the stage of hyperkeratosis, or increased thickness of the skin, and subsequently desquamation takes place and the skin is restored almost entirely to normal.

The first thing I want to show with the lantern are some of the skin lesions. Most of the things I have to say will be in conjunction with the lantern slides, and for that reason I would suggest that you turn your chairs around that you may see better and more comfortably the slides I desire to show you.

At this point a number of lantern slides, some of which were in color, were used to demonstrate the cutaneous lesions and the general appearance of different patients in various stages of the disease. Among these were examples of the typical lesion on the backs of the hands in the early stage of erythema and the later stages of hyperkeratosis, hyperpigmentation and desquamation. Skin lesions on the upper arms, feet, legs, over the sternum, about the neck and on the face were also illustrated. Examples of the disease in various races, at various ages and in both sexes, in greatly emaciated, in moderately obese and in apparently well-nourished individuals were shown.

Lantern slides were shown to illustrate the age and sex incidence of pellagra in the general population. It is largely a disease of women over twenty years of age and to a somewhat less extent of children under the age of ten. The men in the age period between 16 and 45 almost entirely escape the disease.

The food relations of pellagra were illustrated in a similar way. The disease did not appear to be associated with the frequent use of any particular food. The most striking point in this phase of the study was the apparent protective value of milk in the diet. Those who lived in the same house with a pellagrin or next door to such a house were the ones liable to contract the disease regardless of diet.

The geographical location of pellagrins in Spartanburg County, South Carolina, in 1912 and 1913 was shown by lantern slides. Here pellagra was a disease especially of the industrial population of the cotton mills and attacked the agricultural population to a less extent. In the city of Spartanburg the disease was decidedly more prevalent in the unsewered portions and certain Mill Villages, notably that of the Courtenay Manufacturing Company at Newry, S. C., equipped with water-carriage sanitary sewers, were found to be conspicuously free from pellagra. At Newry the disease appeared to be confined exclusively to those who had contracted it before moving to this village. These observations suggested that pellagra may be related to sanitation in much the same way as is typhoid fever.

In order to test this suggestion by actual experiment, the prevalence of pellagra was carefully studied in Spartan Mill Village, one of the worst pellagra foci. Here a complete sewer system was installed in the winter and spring of 1913-1914. Subsequent to this installation there was a remarkable diminution in the incidence of new cases of pellagra in the population of this village although old cases of the disease continued to recur at the expected rate. In this village a complete census was taken by house-to-house visitation in every year up to and including 1916, after which it was no longer possible to continue the observations.

As a result of this work it would appear that pellagra is a disease which originates where insanitary methods for disposal of human wastes are employed, but one must hasten to add that for its origin it is also necessary that a person who has the disease shall be present and also susceptible new victims.

The point of view in regard to pellagra and almost all the facts presented are essentially those developed by the work of the Robert M. Thompson Pellagra Commission of the New York Post-Graduate Medical School. The important investigation of Jobling and Peterson which are in the main quite in accord with these results and the investigations carried on by Goldberger and his associates in the U. S. Public Health Service, which have been largely discordant, have been omitted from the discussion for the sake of brevity.

Dr. B. A. Fedde:

"I would like to ask the doctor if there was any connection between the workers of the soil and these eruptions.

"Last year, in the ward, we had a gardener of a very poor sort of intelligence out here in Flatbush. I was not sure that the eruption was pellagra, but he had a hyperkeratosis of the hands and forearms. He had lived in Brooklyn all his life. I do not recall what he came in for (I think it was for asthma), but these pictures reminded me of him. I thought his trouble was more that of tramps' disease than anything else."

Dr. Ward J. MacNeal:

"Those cases are very interesting. Where there is a suspicion of pellagra in New York I should make a very strenuous effort to see the patient if I could be informed of it. I am very much interested in this disease and am anxious to get cases for local study. I would say that we have also arranged in the past to take charity cases into the hospital for study. I would go any distance to see a case in New York City."

"As to the occurrence of the disease in workers of the soil: That is a common idea in Europe, and there the disease does occur especially in peasants. There is probably something in the idea. In South Carolina, however, this conception is not borne out. It is the mill-worker and the house-worker in large factory villages, who has the highest incidence of pellagra; so it must be that the occurrence of the disease in the peasant in one place and in the mill-worker in another is in some way correlated with the factors which cause the disease. It is evidently not the soil which causes the disease."

Dr. B. A. Fedde:

"I meant did that influence the degree of hyperkeratosis, for instance?"

Dr. Ward J. MacNeal:

"That I could not answer, I feel, because there are so many individual variations which influence the reaction."

Dr. B. A. Fedde:

"I would like to ask if the symptoms are general at first."

Dr. Ward J. MacNeal:

"I would say in answer to the question as to whether the symptoms are always general at first, that this is not always the case. The first observed manifestation may affect the skin or the digestive system or the nervous system."

The Treatment of Arthritis Deformans

John B. D'Albora, M. D.
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In reviewing the literature on arthritis deformans one finds that the classifications of this disease are as varied and numerous as the different writers on this subject. If we consider this disease from the standpoint of the pathology produced, we may divide it into two main groups:

1st The *periarticular form,* the so-called rheumatoid arthritis where the periarticular structures of the joints are principally involved.

2nd The *osteo-arthritis form,* where the cartilage and bone of the joints are chiefly affected.

The latter group is subdivided into—

(a) The hypertrophic osteo-arthritis where we have hypertrophy of the bone and cartilage, and

(b) The atrophic arthritis where we have a loss of or atrophy of the bone and cartilage in a joint.

However it is not uncommon to find all of these forms or varieties co-existing in the same case. We may explain this by the fact that, the etiological factor being the same, the various lesions produced are an expression of degree of damage to a joint or its surrounding structures, and depend mainly on the age of the patient, trauma, the joints involved, etc.

Etiology

We are not concerned in this discussion with cases of infectious arthritis where the invading organism has been definitely established either by aspiration of a joint or otherwise, such as gonorrhoeal or a streptococcic arthritis. Our paper deals with that group of arthritis, subacute or chronic in nature, having all the characteristics of a low grade infectious process but where we are unable to definitely state the cause. Nearly all writers agree that arthritis deformans is secondary to a focus or foci of infection somewhere in the body. Whether the organisms actually invade the joint or surrounding structures or the lesion is due to the action of some toxin produced by them, we do not know. The principal sources of infection in order of their importance are: The teeth, tonsils, the nose and accessory sinuses, the bronchial mucous membrane, the gastro-intestinal tract including the biliary passages and the appendix, the genito-urinary tract and the female pelvic organs. Too little stress has been laid upon the gastro-intestinal tract as the possible portal of entry of infection in this disease. Bassler in the study of forty-five cases of arthritis deformans directed chiefly to the gastro-intestinal tract, found this to be the most frequent site of infection. The organisms which he isolated from the stools, bile or after removal of the appendix, in order of frequency were the bacillus aerogenous capsulatus, diplo and single gram positive cocci, bacillus putrificus, pathogenic types of bacilli coli communis, staphlococci and streptococci. McCrae collected five hundred cases and found them evenly distributed between both sexes. About 40 per cent occurred under 30 years of age, 38 per cent between 31 and 50 years of age, and 22 per cent over 50 years of age. The periarticular and atrophic forms were more common in the younger patients, while the hypertrophic form occurred more frequently in older patients. The white race was proportionately more susceptible than the colored race, gonorrheal arthritis being more common in the latter. Trauma played some role in a goodly number. Heredity does not seem to play any important part although in one instance there is a history of arthritis in four generations of a family, and many instances where several or more members of the same family were stricken with it. Not uncommonly arthritis deformans may follow an acute infection such as acute bronchitis, influenza, acute dysentery, etc. In women it may develop about the menopause and during or following pregnancy.

Treatment

In the treatment of arthritis deformans, early diagnosis is the essential factor, for if we make our diagnosis early in the disease and direct our energies to finding the focus or foci of infection and institute proper medical or surgical measures we can limit the damage to the joint and surrounding structures and possibly prevent further attacks and more extensive involvement. Too often we regard the condition as so-called rheumatism, we keep our patient indoors, we restrict the proteins in the diet and administer doses of salicylates thus allowing the disease to firmly establish itself, instead of making a thorough investigation of the teeth, tonsils, nose and sinuses, ears, the gastro-intestinal tract, etc., eradicating all possible foci of infection, and thus limiting the damage. Where any uncertainty exists, the patient should be given the benefit of the doubt, for many innocent looking tonsils after removal are found to harbor deep pus pockets which on culture show streptococci or other pathogenic organisms.

We cannot expect to cure these patients in the sense that we can restore the changes which occur in the affected joints or periarticular structures, we can only hope to prevent further destruction and more extensive loss of function.

Arthritis deformans is essentially a debilitating disease therefore everything should be done to increase the patient's resistance, and keep up his or her morale. The habits, mode of living and diet should be carefully scrutinized and properly adjusted.

These patients should have plenty of fresh air and sunshine, avoiding exposure to sudden changes of temperature. They should wear flannel underwear and woolen socks and mittens in cold weather. They should be given plenty to eat. It is erroneous to exclude proteins from their diet. As a general rule it is too much carbohydrate food which causes most of the digestive disturbances in these patients. Fats are well tolerated. They should be made to drink plenty of water in order to favor elimination. Fermented milk is well borne and beneficial. Bassler urges that constipation be corrected by diet and not drugs. Spencer has used yeast extensively in some of these cases and reports distinct benefit. He believes that those of his cases which were benefited by yeast therapy were due to a focus in the gastro-intestinal tract and that the yeast in some way modified the intestinal flora and relieved the constipation with the resulting improvement in the joint condition. Bathing in the acute stage is not indicated and in the chronic stage prolonged hot baths are debilitating and harmful and should not be used. If they can afford it they should be sent to a warm climate.

Medicinally our aim should be to increase their red count and hemoglobin by the use of some preparation of arsenic and iron either by mouth, subcutaneously or intravenously. Kali iodide is extensively used. The salicylates and the newer synthetic compounds of this group are useful to diminish pain but are of doubtful value as far as the joint condition is concerned. Morphine should not be used on account of its habit forming properties. The pure tincture of iodine from one to ten drops, well diluted in water, taken by mouth, is recommended in acute attacks. The endocrines are advocated by some writers in arthritis deformans and such glands as the thyroid, the thymus and the pituitary are recommended by them, while radium emanations are said to be beneficial by others.

The writer has been interested in the use of foreign proteins intravenously in this disease and believes it is of some value. Typhoid vaccine was used in five cases of chronic arthritis deformans occurring during the past year on the medical service of Dr. Leiter at St. Mary's Hospital and in my practice, and this, together with the other measures outlined above, was found to be of decided benefit in improving all of these patients. The pain and stiffness in the joints practically disappeared and from being helpless and bed-ridden, the condition of these patients so improved that they were able to be up and around, and help themselves. We began with a dilution of 25 million bacilli in 10 c c of sterile saline solution, every five days repeating the injection and increasing the dose by 25 million bacilli each time, until 200 million were given in one dose. Whether or not to increase the dose was determined by the severity of the reaction in the patient. If morphine sulphate grain 1/6 is given hypodermically about one hour prior to the intravenous injection the chill is controlled somewhat, and the patient experiences a more comfortable reaction. The rectal temperature after injection averaged from 103° to 105° usually coming down to normal in from six to twelve hours. The increase in pulse rate was usually in proportion to the temperature. No alarming cardiac symptoms were noted. There was a leucocytosis of 13,000 to 15,000 white blood corpuscles with a slight increase in polys 70 to 74 per cent, the blood count gradually coming down to normal about the third day after injection. The urine examinations twenty-four and forty-eight hours after showed no gross kidney changes. Our patients so treated received from three to thirteen injections in one case.

McRae found the intravenous injection of autogenous vaccine of decided value in the treatment of some of his cases, particularly in those where the focus of infection was in the biliary passages.

H. Forrestier, a French writer reports six cases in which he used colloidal sulphur intravenously. He gave from ten to as many as forty-two injections in one case. There was remarkable improvement in one patient, two were benefited and three showed no improvement at all.

B. B. Vincent reports one case of four years duration in whom the lamblia intestinalis or giradia were found in the feces. He treated this case by continuous duodenal biliary drainage and the introduction of parasiticidal disinfectants twice daily into the duodenum and jejunum. His arthritis showed remarkable improvement after he was cured of the lamblia infestation.

Other measures such as exercise, massage, passive movements, counter irritation and the prevention and treatment of deformity must be considered in each individual case. In the periarticular form the judicious use of graduated exercise, with massage and passive movements diminish the risk of ankylosis of the joints, muscular atrophy is lessened, and contractures may be prevented. These measures are not to be instituted in the acute stage. In the atrophie and hypertrophic forms manipulation of the affected joints causes excruciating pain as a rule. Here placing the joints in splints for short periods of time, or the use of light extension for several hours daily will be found beneficial. Putting up a joint in a plaster cast for weeks at a time should be condemned. There are many forms of apparatus on the market for exercising the joints. While these are of great help we must never cease encouraging these patients to do things themselves. At times the orthopedic surgeon must interfere to help restore function or relieve pain, as in cutting contracted tendons or removing bony exostosis which are causing marked deformity or pressure on nerve trunks.

Menstrual History and Its Interpretation

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The necessity of a diagnosis be it called working, provisional or final is accepted today as the one great pre-requist to the proper treatment and management of any given case. The question of Gynaecological diagnosis in general is too broad a subject to be discussed in the few minutes at my disposal this afternoon and I will therefore dwell upon one phase of Gynaecological diagnosis.

The menstrual history: This is too often taken merely as a matter of routine even by Gynaecologists. We frequently see the menstrual history dismissed by the notation that it began at thirteen, was regular every four weeks and lasted three to five days. As a matter of fact such a history is seldom present in a patient needing Gynaecological investigation. There is almost always some irregularity at some time. It is the search for this irregularity that I wish to stimulate and the interpretation of this irregularity, when it is found, that I wish to briefly discuss.

Many Gynaecological conditions have a characteristic menstrual history if we will but permit our patients to tell their story in full using our history form merely as a guide for them to follow.

The menstrual history should be noted in the following manner: First: Onset of the patient's menstrual history. Did she begin menstruating at the usual age? or was there evidence of some congenital abnormality or endocrine perversion even in her youth? Second: The patient's standard menstrual type. This is usually established after about one year of menstrual life. Third: The time and character of the original deviation from the normal. Fourth: The bleeding history of the past few weeks or months.

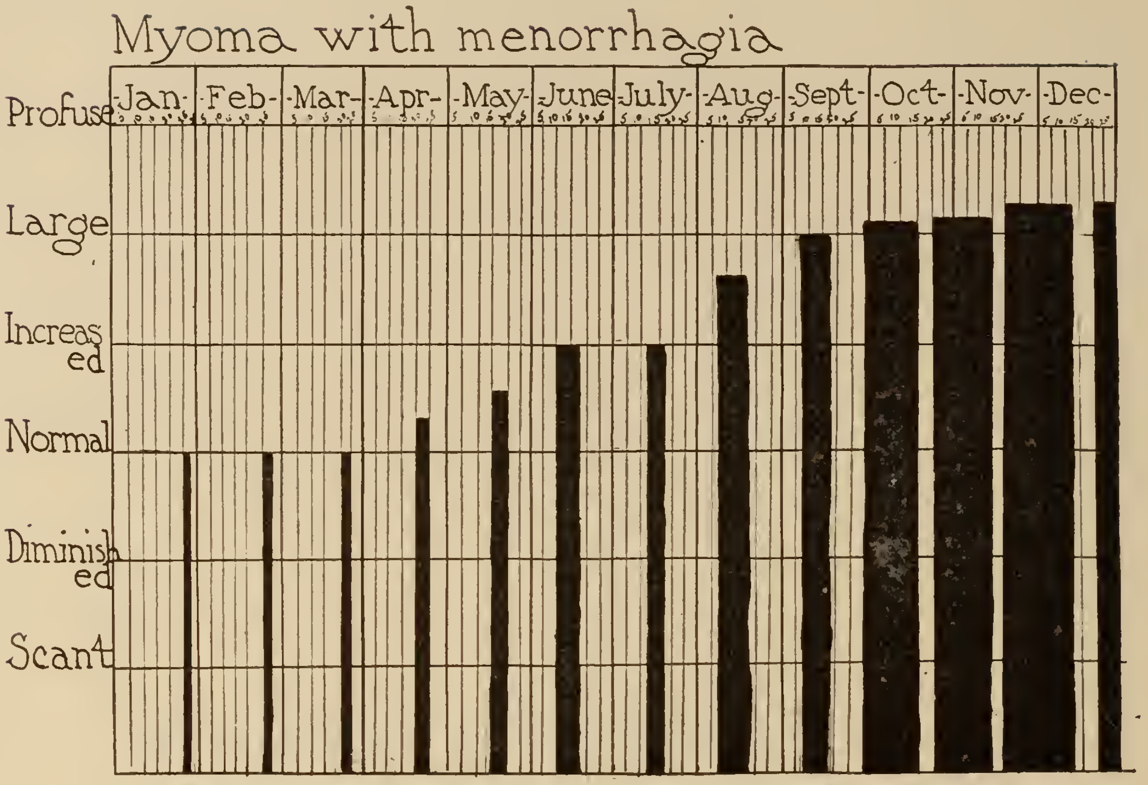

Figure 1

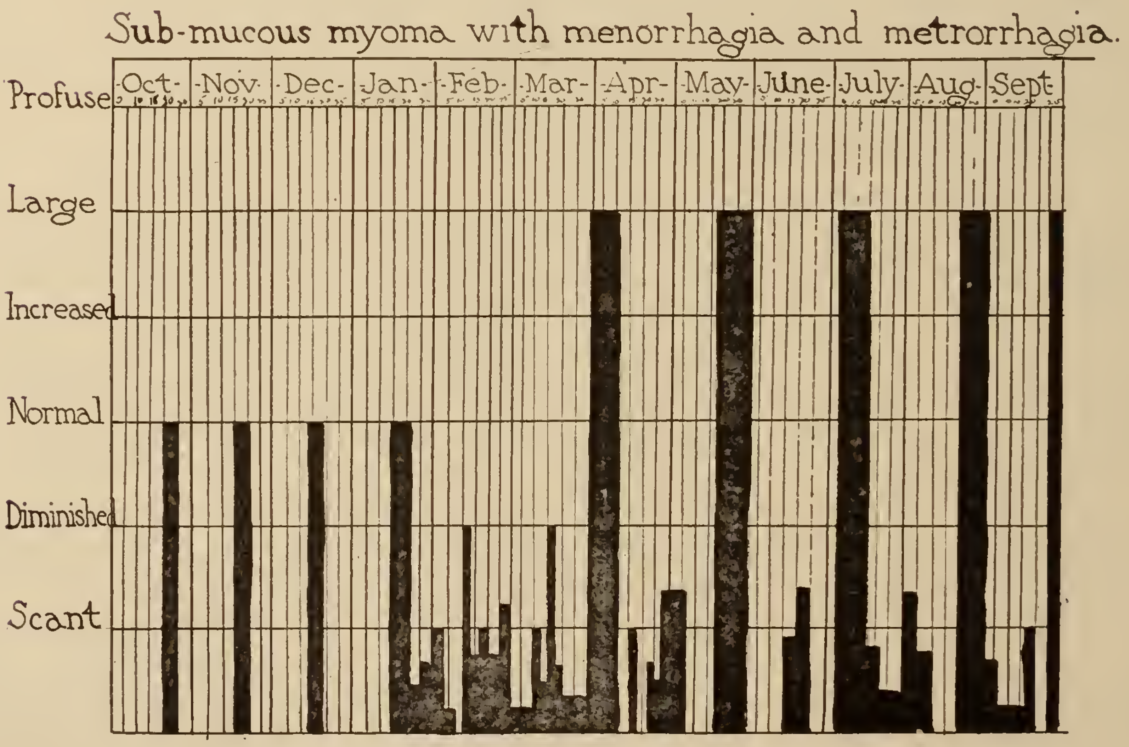

Figure 2

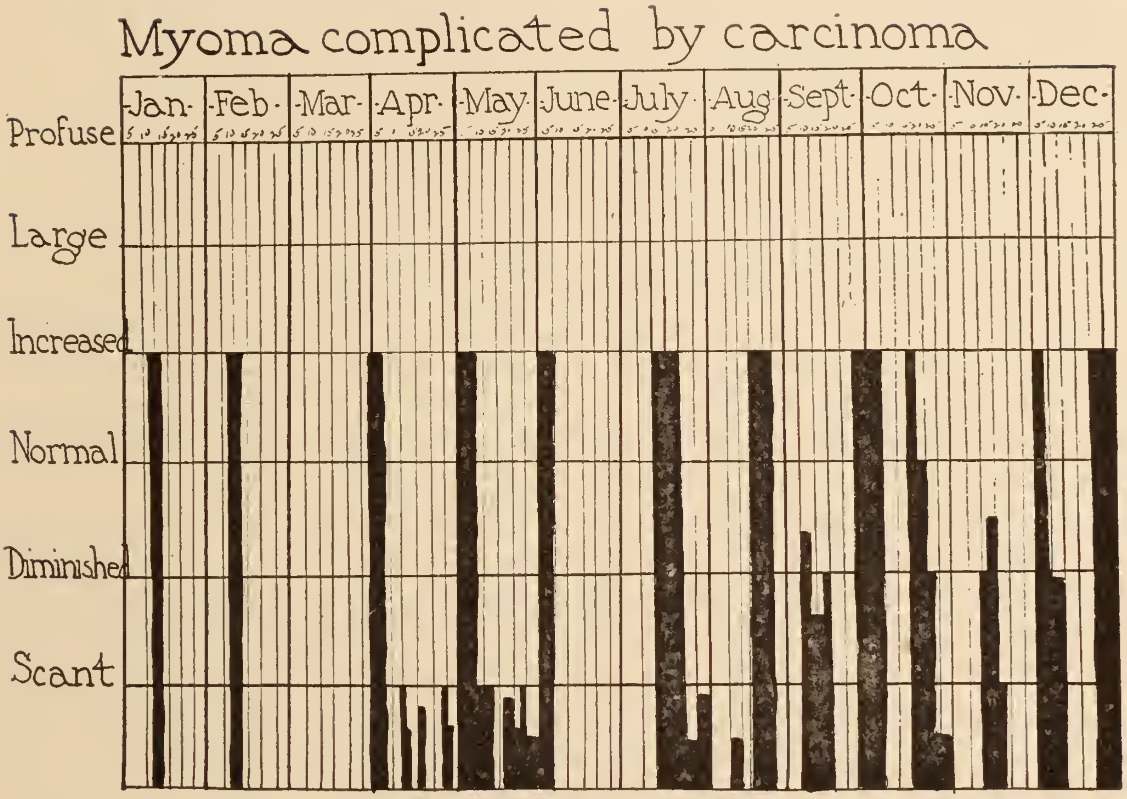

Figure 3

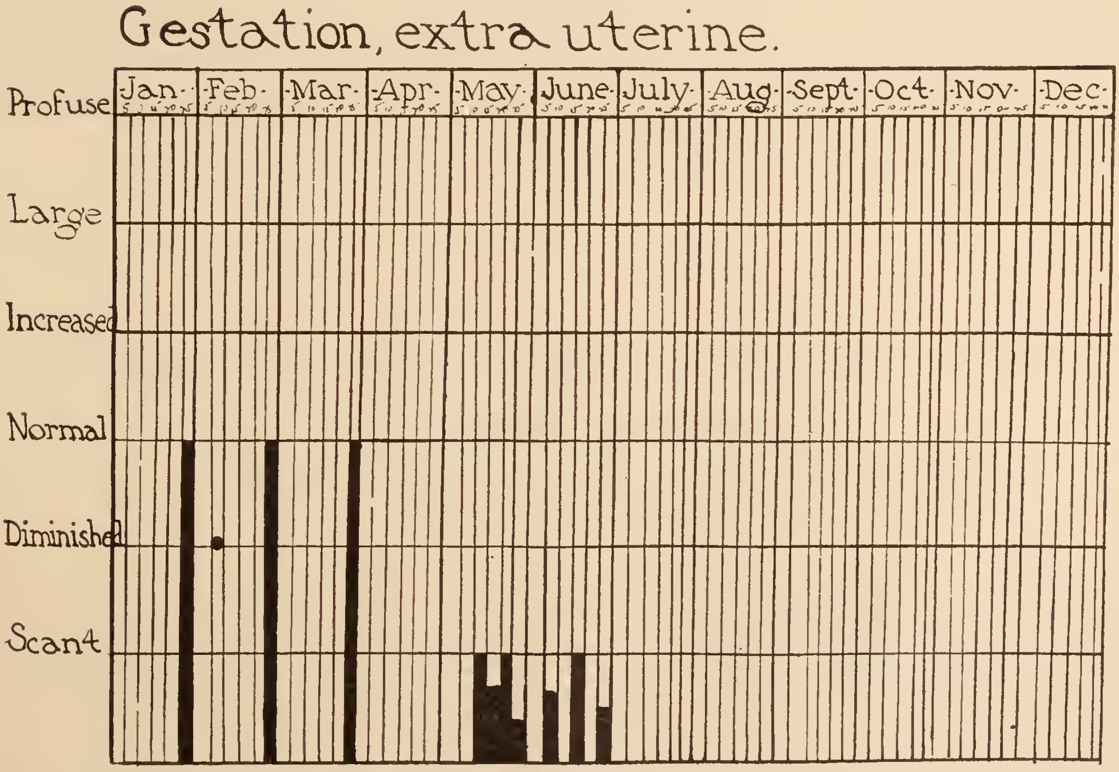

Figure 4

May I illustrate, using a few of the more common gynaecological conditions as examples? Myoma uteri, or fibroid uterus uncomplicated, has a characteristic history graphically represented upon chart Number 1. Here we find a perfectly normal menstrual type followed by a gradually increasing menorrhagia. When the fibroid uterus is complicated somewhat by the presence of a submucous polypus we have introduced a picture designated as metrorrhagia, this is illustrated in chart Number 2.

Metrorrhagia is the designation par excellance of malignancy. It follows no law or regularity and in this respect resembles closely the condition it represents, malignancy. There is, however, a benign condition which frequently causes a typical metrorrhagia following a regular menstrual type, namely, cervical polypi, both fibroid and mucous, this is illustrated in chart Number 2. The regular recurring and gradually increasing menorrhagia of a fibroid uterus gives way to the picture of metrorrhagia should malignancy be superimposed upon the myomatous uterus as is shown in chart Number 3.

Extra-uterine gestation, difficult as it is on many occasions to diagnose usually presents a characteristic menstrual history. There is the patient's normal menstrual type, this is usually followed by a short period of amenorrhea. The large majority of ectopic gestations date their trouble from about the sixth week after their last menstrual period. At about this time the primary accident occurs. The accident may be tubal rupture or as is more frequently the case, so called, tubal abortion; at this time the patient usually begins to bleed vaginally. The bleeding is usually characteristic, it is not the scanty metrorrhagia of malignancy, it is not the sudden profuse flow coming from a clear sky as does the bleeding of uterine abortion, it is a flow resembling normal menstruation in amount and usually lasting several days. Then comes another short period of amenorrhea followed by more scant bleeding as is noted in chart Number 4.

I trust in these few moments I have drawn attention to the necessity for a painstaking gynaecological history through out and have illustrated a few of the suggestions which may be obtained from the menstrual portion of such a history.

Carcinoma of the Sigmoid With Report of a Case With Extensive Metastases

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WHEN one considers the high percentage of favorable results in cases operated early, and contrasts this with the still greater number of cases that reach the surgeon, too late for more than obstruction relief by colostomy; when one considers that the duration of symptoms before diagnosis is made varied from 2 to 97 months, with averages of 10 to 11 months by some reporters, and one active operator can report 24 cases "all well advanced," without at the same time being able to include one early case, one cannot but realize that this subject demands a keener study in the hands of the general practitioner principally.

The importance of emphasizing misleading factors in our conception of cancer of the colon and especially of that least palpable portion, the sigmoid, has been evidenced to me during the past four months, by encountering four cases of inoperable carcinoma of the sigmoid, three of which showed early age incidence, 21, 25 and 33 years, and one of which showed such rapid and marked metastases, that I have considered it worthy of inclusion in this report.

Inoperability depends entirely on the failure to make an early diagnosis, and this is due mainly to improper interpretation of suggestive symptoms, incomplete examination, and often the placing of too much stress on the youth of the patient.

It is important to realize that age has been very much over-estimated as a diagnostic factor. The age incidence usually recognized, causes one to fail to look for cancer in younger patients. Statistics vary as to its occurrence in the first three decades, but 5 per cent fairly averages a series of reviewers. The youngest authentic case is one of 11 years.

While there is no specific syndrome indicating a cancer of the lower bowel, there are certain definite symptoms which should always cause suspicion. These are:

Constipation, with or without cramplike pains, which later alternates with diarrhoea that becomes persistent.

Blood and mucus in the stools—often ascribed to hemorrhoids, when macroscopic.

The feeling of incomplete emptying of the bowel.

Any case revealing a history of disturbance of intestinal function should have stool tests for occult blood, which, if found, should call for an intensive study of the intesinal tract by x-ray, proctoscope and sigmoidoscope. Even with all this, a definite conclusion may not be reached because of negative findings, but if the suspicious symptoms persist, the patient should be kept under observation and the x-ray and other tests repeated.

Some writers maintain that an early diagnosis cannot be made by the x-ray. Others maintain that one or two definite findings warrant operation. Another claims that all cases with "colitis" symptoms should be considered as potentially cancer.

Pain in the early stages is not to be depended on—it occurs in 5 per cent of cases. So also with loss of weight and cachexia. Many have gained weight even when inoperable.

> I would cite here briefly a case of a woman aged 33, who was admitted to my service with a large abscess in the lower middle abdomen. The history revealed constipation and diarrhoea for a few months before admission, and of having been under treatment at another institution for typhoid fever within that period. Vaginal and rectal examination showed a large fixed mass high up in the pelvis involving all the viscera, but more so on the left side. The provisional diagnoses were ruptured pyosalpinx or diverticulitis. The abscess was incised and drained, although the cause was not determined at the time, it being considered inexpedient to explore. The patient did not do well, showed evidence of spreading general peritonitis and three days later was explored through a left abdom-

inal incision. A perforation of a tumor of the sigmoid, with the abscess formation and subsequent general peritonitis, but without bowel obstruction, was found. The patient's condition would not warrant more than establishing drainage. Autopsy showed the tumor to be adenocarcinoma on section. This case illustrates a failure to make an early diagnosis when a very definite opportunity to do so was possible.

Another recent case in a woman 57 years of age was referred to me as a fibroid tumor of the uterus, which by its size was causing pressure on the rectum and moderate bowel disturbance. On analysis of the history, and vaginal and rectal examinations it was found to be a carcinoma of the sigmoid. Constipation followed by several months of frequent small stools containing blood and mucus directed attention to the proper viscus. Abdominal exploration proved the inoperability of the same and a colostomy was done. The patient is still living and is going along comfortably since leaving the hospital two months ago.

In the well advanced cases—the picture becomes more clearly defined. The signs of obstruction, perforation, cachexia or evident metastases produce a definite diagnosis. Here, too, one should hesitate and study the case well before deciding inoperability, because at least a colostomy is always indicated and the opportunity for an abdominal exploration, as to extent of involvement, is afforded.

As to metastases and glandular involvement, our normal conception is that the lymphatics of the sigmoid are very few and inactive, as compared with the small intestine—that they are slow to become involved in malignancy of the gut and only do so when the outer surface of the bowel has become involved. It has been shown by autopsy that the condition was still local in 50 per cent of deaths—death being due to obstruction, perforation or peritonitis. This statement is but another indictment for our failure to recognize these cases early.

Some go so far as to state that "cancer of the pelvic colon is relatively benign'"—that "cancerous enlargement of the glands is exceptional"—that they "have never observed a true cancerous lesion of the glands in these cases, but occasionally inflammatory enlargement has been noted"— that "visceral metastases are practically never observed."

At the same time we note that, as compared with other parts of the large intestine, metastases occur more frequently from the sigmoid than from any other part, and that metastasis may occur in the liver without a sign of local metastasis.

It has been shown that the lymphatic system in its development, reaches its height in adolescence and that in advancing life the lymphatics undergo a progressive atrophy, and this lack of lymphatics accounts for the benign course of the disease in the latter decades of life, as contrasted with the riotous spread of the malignant process in the young. This is well portrayed in the following case.

W. P. aet 25, male, Bank Clerk, was admitted to St. Mary's Hospital October 31, 1921.

Family history is negative as to cancer, tuberculosis, diabetes.

Past History—negative, except for measles when a child.

Habits:

Appetite very poor since onset of illness.

Bowels regular up to five weeks ago, since then he has had no formed stools. Stools have been passed at least once daily, always soft, occasionally with blood and mucus but no pain.

Urination, slight tendency to retention, without pain or burning, polyuria at times.

Sleep—not good, restless.

Stimulants, indulges moderately.

Present illness began in July, about 3 1/2 months before admission to hospital. Onset was gradual, with pains in joints, muscles, but especially in the left hip, sharp in character, lasting about one minute and recurring at irregular periods, often every 20 minutes. Vomiting usually in the morning, came on in August, persisted for about one month and then ceased. General weakness supervened about 5 weeks ago, and has been confined to bed since that time. One week ago he began to sleep with his right eye half open and had difficulty in closing his left eye. Has had pain over the left temporal region for three days. Has had two or three periods of spasms of the neck muscles with spasms of the upper right eye lid. He has had night sweats of late. He was treated at home for rheumatism, having had several baking treatments.

Physical examination:

Blood Pressure 120/60, P 104, T 100.2, R 18. Poorly nourished male who looks chronically ill.

Head—Shows pupils equal, react slowly to L & A. He raises the right eyebrow higher than the left. Left side facial paralysis slight in character. Soft palate pulls slightly to right. Tongue in median line and shows fine tremor.

Thorax—normal, except heart shows poor muscular tonus, although regular rhythm.

Abdomen shows slight distention, no tenderness, no abnormal masses palpable, liver and spleen normal. Abdominal reflexes normal, cremasteric more active on right than on left. No paralysis of abdomen.

Extremities moderately spastic, fixation of left hip. Knee jerks markedly increased and equal. Babinski not obtained.

After admission the patient continued prostrated, nervous and restless, complaining of vague pains in left hip and elbow joints and almost constant pain in left frontal and parietal regions, with moderate abdominal distention, vomiting and occasional pains in abdomen. The bowels were not constipated, there being two to three liquid stools daily and no blood or mucus were noted, until the sixth day of admission.

The only abnormal urinary finding on three analyses during his stay in the hospital was the presence of a few granular casts. His blood showed a secondary anemia, Haemoglobin 80 per cent, Erythrocytes 2,700,00, Leucocytes, 11,500, Polymorphonuclears 70 per cent, small lymphocytes 30 per cent.

Blood Chemistry:
Sugar .109 per cent.
Chlorides .438 per cent.
Urea, Nit. 10.2, mgs. per 100 c c.
Creatinine 2.8, mgs. per 100 c c.

Spinal fluid test showed:
Wassermann, negative.
Gold Test, negative.
Globulin, negative.

Three blood wassermans were negative.

A rectal and proctoscopic examination revealed a mass high up, involving the lower portion of the sigmoid and firmly adherent to the left side of pelvis.

From the sixth day after admission until the 15th day the bowel condition had become progressively annoying, in that the stools were very frequent and involuntary and contained much mucus and blood, although there were no signs of obstruction. It was decided to do a colostomy and explore the pelvis. A left inguinal colostomy was done with the formation of a very definite spur. On exploration the mass was found to involve several inches of the lower segment of the sigmoid and was firmly adherent to the left side of pelvis and to the bladder anteriorly. Many enlarged glands were noted in the meso sigmoid. The abdominal condition did not warrant completing the colostomy, by resecting part of the bowel, until the 4th day following operation; thereafter the patient's abdominal condition continued very much improved, there being but occasional small quantities of mucus expelled through the anus. The patient's general condition continued slowly downward, the brain involvement becoming more marked. The left eyeball showed a metastatic tumor within it, metastases appeared in the right clavicle, the left 5th rib, the lower humerus, epitrochlear gland region, all of the superficial lymphatics over the anterior chest wall and in both subpectoral and both axillary regions, in the shaft of the right femur, and the left hip joint became enlarged and fixed. The inguinal glands were not involved.

Knowing that a general autopsy would be denied by the family, a biopsy of one gland from the anterior thoracic region was performed a few days before death, which on section showed masses of carcinoma nodules, a diagnosis of metastatic carcinoma being returned from the laboratory.

During the progress of the case numerous consultations were held with the Neurological and Eye Departments. An X-Ray examination was not deemed necessary because the diagnosis was so apparent without it.

This case illustrates the very extensive metastatic involvements possible in carcinoma of the sigmoid, which is undoubtedly accounted for by the youth of the patient and by the fact that colostomy before obstruction or perforation prevented death from that cause. It also shows the symptoms which should have caused a suspicion in its earlier stages, these having been masked decidedly at the time of his admission to the hospital, by the brain involvement.

The Management of Acute Gonorrheal Epididymitis

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In the brief space afforded by this paper, the writer has attempted to present a practical, conservative and comprehensive view of the treatment of this most common complication of gonorrhoea.

A survey of the literature reveals the fact that a multiplicity of methods have been employed, each advocate expressing confidence in his own method.

To carry out the treatment in a rational manner, one must always be mindful of the clinical and histological pathology of this condition. When the gonoccocus has descended through the vas from the ejaculatory duct to the epididymis, an acute inflammatory process develops. The virulence of the organism and the resistance of the host determine whether the onset is very rapid and acute, or whether the onset is more gradual, the condition reaching its height at the end of several days. The epididymis rapidly enlarges until it commonly reaches the size of a large thumb. This is accompanied by effusion of serum into the tunica vaginalis, usually distending the sac and obliterating the sulcus between testicle and epididymis. As the fluid is gradually absorbed, the large infiltrated epididymis remains to battle with the infection until Nature may accomplish resolution.

After the fifth day there is often agglutination between the layers of the tunica vaginalis, and the visceral layer may be covered with plastic exudate. The site of greatest infiltration usually takes place in the globus minor, and it is for this reason that it has received special attention in the surgical treatment. Occasionally, the inflammation is confined almost entirely to the vas, the epididymis being only slightly involved. The writer has seen a number of these cases.

It must be distinctly understood that the lesion is one of epididymitis and not orchitis. The pathological studies of Monod and Terillon have demonstrated this fact beyond all doubt. Doctors Mallory and Cunningham, of Boston, sectioned portions of infected epididymes and found leucocytes in large numbers in and between the tubules, and, in many instances, found areas of microscopic dissolution and abscess formation. It is, indeed, probable that small localized abscesses are formed in the epididymis far more frequently than commonly supposed. This fact explains why some cases prove intractable to expectant treatment and require surgical drainage for relief.

The treatment logically divides itself into three groups: 1. *Prophylactic.* 2. *Expectant or Medicinal.* 3. *Surgical.*

Prophylactic: The management of acute specific urethritis may have much to do with the development of this unfortunate complication. It is probably true also that urologists find this complication more prevalent in clinic and ward hospital practice. The uninformed not infrequently attempt the treatment of their own case, or follow the advice of an unscrupulous pharmacist. Some patients receive active local irrigation or injection treatment in the early stage of a very severe urethritis, often with posterior involvement. Again, not a few cases have never been advised as to the proper manner of carrying out injection treatment when indicated.

It is an absolute rule that massage of the prostate or introduction of urethral instruments should never be attempted during the course of acute urethritis. Again, the error may be made of employing massage or instrumentation too soon after the acute urethritis has subsided, thereby setting up an exacerbation with epididymitis. The use of local irrigation and injection treatment in the early stage of all very acute cases of urethritis is unsafe. Not only is this likely to prolong the course of the disease but set up complications. The use of a suspensory to be worn during the stage of acute urethritis is a good routine. Antiseptic irrigations following massage or instrumentation in chronic cases is imperative.

While improper or overstrenuous methods are frequently the cause, infection of the epididymis will not infrequently occur in patients having the most pains-taking treatment under ideal conditions.

The diet, habits and sex life of the patient must be controlled as closely as possible in all cases of urethritis. The writer believes that prophylaxis in avoiding complications deserves a prominent place.

Expectant Treatment. The large majority respond to medical treatment. The patient is immediately put to bed and given a preliminary cathartic, low diet and plenty of fluids. While a small proportion of cases would not seem severe enough to require the bed, the probabilities are that in the long run, the best results are obtained with making no exceptions.

The first and most important step is to suspend the testicle properly. This point is particulary emphasized by many writers, including Thomson Walker, Cabot and Keyes. The cord must be relaxed, relieving all tension and pressure on the epididymis. To accomplish this a great variety of suspension apparatus has been devised, each having been used successfully. Each consists of a cloth band placed around the waist and a vertical band attached to it behind and drawn between the thighs over the perinium and fastened in front over the abdomen. This portion suspends the scrotum and testicles on the pubic bone without causing undue pressure. Suspension may also be accomplished by an adhesive "bridge" about four inches wide, placed across the thighs, high up and padded with cotton or gauze under the scrotum to relax the cord. The latter method has proved to be a satisfactory routine at Kings County Hospital.

For relief of pain an initial dose or two of morphine may be necessary in severe cases, otherwise codeine or other sedatives suffice.

All local treatment for urethritis is suspended.

Applications of heat or cold have their advocates. Both tend to relieve pain somewhat. Keyes, Thomson Walker and Gouley and others use ice. Dr. H. H. Morton maintains that the use of ice delays resolution, thereby promoting hard infiltration with danger of resulting sterility. Heat may be applied by poultices, electric heating pad or hot water bag. The writer has used the electric pad in private practice with great satisfaction. It affords a most convenient means of applying consistent steady heat and the relief from pain is often striking following its use.

A variety of drugs is still used. At Kings County Hospital we employ 20% guaiacol ointment, applying it daily and using due care to avoid scrotal dermatitis. In many it relieves the pain in a comparatively short time. Guaiacol may also be used conveniently in glycerine 25-50% strength applied with camels-hair brush.

After the stage of pain has passed, 25% ichthyol ointment is used and this is continued even after the patient is walking about. The object of this is to stimulate resolution if possible. I, personally, have found it an advantage when using ointments on the scrotum, to place a square of oiled silk over the medication next to the skin, with supportive dressings outside. This prevents absorption of the ointment into the dressings, keeps the patient and clothing clean, and maintains continued contact of the drug with the inflamed part.

On the service of Doctor Morton at Long Island College Hospital we use lead and opium lotion with equal satisfaction. Others have reported success with wet dressings of aluminum acetate or magnesium sulphate solution.

Gonococcus vaccines in large doses have been used successfully by some, but this method has not become generally adopted. The writer has had a limited experience with vaccine and has not been convinced that it has afforded special benefit. Non-specific protean therapy also has not become generally popularized. Horse serum, anti-diphtheritic serum and typhoid vaccine have all been suggested and tried. Their use would appear unsound, unscientific, and of questionable clinical value.

The time required to stay in bed depends upon the severity of the case. Ordinarily from seven to fourteen days are necessary, while some require three or more weeks. Occasionally the mistake is made of getting the patient up too soon, and with resulting exacerbation and delayed resolution. All patients should wear a suspensory on getting out of bed to keep the cord relaxed. Hirsch recently reported success with the use of the therapeutic lamp in conjunction with wet dressings applied continuously.

Intravenous injections of sodium iodide have some recent advocates who report rapid relief of symptoms and shortened resolution. This method depends upon the supposed increased phagocytosis and diapedesis produced by the iodide. The claims of some of the followers of this procedure would appear extravagant. The writer has had no experience with this, but fails to understand why iodides have any more effect on the epididymis than acute infection of any other internal organ. The use of iodides internally and locally is an old method long since abandoned.

After the acute tenderness has subsided, some surgeons use steady pressure on the testicle accomplished, either by means of an elastic circular rubber bandage, or by strips of adhesive plaster about the organ. This seems to me to be rather meddlesome, and has no sound basis for its use.

We even find in 1921 Doctor Ahlswede of Hamburg advocating injections of 10% Pepsin Hydrochloric Acid solution into the infiltrated tissue of the epididymis, with the hope of improving resorption by a digestive process. This seems almost absurd.

Surgical Treatment. Although comparatively little has been said concerning the treatment of epididymitis during the past five years, one is particularly impressed with the growing popularity of the open operative method. During the war, for example, where excellent opportunity was afforded for group study, some army surgeons were even going so far as to advocate the Hagner operation in all cases.

Surgical treatment is said to have begun in 1852, when Pirogoff operated and punctured the tunica albuginea of the testicle. Later, blind puncture of the tunica vaginalis and infiltrated tissue came into vogue. It is only in comparatively recent years, however, that the lesion has been well understood.

It remained for Doctor Francis R. Hagner, of Washington, D. C., to place the surgical treatment on a logical and scientific basis. In 1907 he reported the results of his first nine cases before the American Association of Genito-Urinary Surgeons. His operation should properly be termed the "Classical operation" for this condition. He reported marked relief from pain, drop in temperature, rapid reduction in leucocytosis, and more rapid disappearance of the local induration. In his original report he emphasized the fact that the majority of cases did not require operation, but prophesied that the method might become increasingly popular in selected cases. His prophecy has already been realized. In 1909 he collected thirty-four cases in twenty-five of which pus was found at operation. No organism was found other than the gonococcus.

On the service of Doctor C. S. Cochrane at Kings County Hospital we have operated upon seventeen cases under stovaine spinal anaesthesia. We selected cases only where the temperature ran high, and the pain was unusually severe, and not relieved by expectant treatment.

Up to this time, we have adopted the conservative policy, even in those cases where convalescence was slow, and the temptation to operate was strong. Those requiring operation were selected from a large group of cases over a period of two solid years active hospital service. In the majority, small amounts of pus were found. In one, we exposed an abscess about the size of a hazel-nut in the globus minor near the body of the epididymis. In all, relief from pain was almost immediate and convalescence materially shortened. In a few, adhesions and plastic exudate were found in the sac, usually in cases delayed before operation. In these it was extremely difficult or impossible to invaginate the sac and expose the globus minor. In only one did an exacerbation occur some time after operation.

Doctor A. B. James of Toronto in 1919 reported a series of one hundred cases, fifty with, and fifty without operation. In those operated upon, pain was relieved in all in twenty-four hours; while in those not operated, the pain persisted for from three to six days. All tenderness on pressure disappeared in his surgical cases within thirty days, while in the medical group, it persisted to some extent for about forty days in the average patient. He found that the shorter the period prior to operation, the shorter the convalescence. It is also stated that early operation has the tendency to prevent destruction or occlusion of the tubules. In bilateral involvement, for this reason, sterility may be less frequent when operation is resorted to. However, there is not sufficient evidence to substantiate this point. I recall one of my private cases of double epididymitis with recurring attacks, first on one side and then on the other, with which he was confined to the bed for several weeks.

I was compelled to resort to a double Hagner operation under general anesthesia and recovered pus from one side. The symptomatis relief in this case was striking, and after cure of the remaining urethro-prostatitis, examination of the semen showed plenty of active spermatozoa. Two other cases in my practice failed under expectant measures, and the Hagner operation under a general anesthetic gave most gratifying results.

The operation, briefly, consists of a scrotal incision with isolation of the tunica vaginalis as in hydrocele. The tunica is opened and fluid evacuated. The testicle and epididymis are then delivered through the wound and held in warm compresses, and the entire epididymis carefully palpated for areas of induration or fluctuation. Multiple punctures are then made with a tenotome through the thickened covering and into the points of greatest involvement. For this purpose some recommend the use of a cataract knife. Pus in small amounts may be seen to escape from one or more openings. If so, these are probed and enlarged and irrigated with bichloride solution 1:1000. Very dark blood is usually encountered, indicating the intense engorgement. A cigarette drain is then inserted and the sac lightly closed and the scrotal tissues coapted. General or spinal anesthesia are much more preferable than local. The writer likes wet dressings of aluminum acetate after operation as it facilitates drainage and also seems to aid resorption.

Some surgeons have made linear incisions but these are rather likely to divide tubules, thereby increasing the tendency to their occlusion. The one important point in open operation is to carefully examine the entire organ to avoid any possibility of overlooking a focus.

About a year ago Vinson reported satisfactory results obtained in thirty-one cases by blind puncture with the actual cautery passed through the scrotal tissues into the globus minor. If one is going to go this far, why not resort to open operation, when necessary, and relieve the condition once and for all?

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Management of Acute Prostatitis

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An extremely common complication, occurring in at least 75 per cent of all cases of gonorrhea, acute prostatitis demands the most careful attention from the urologist. It may form a focus of infection responsible for exacerbations of the urethritis, arthritis, the infection of a sexual partner, when other symptoms have disappeared. It is the most difficult complication to cure.

Beginning in the gland tubules, the infection may spread to the acini, to the perifollicular tissue, and involve the entire gland. Multiple abscesses may result, which, in coalescing, may cause destruction of the entire gland. The involvement may be arrested at any stage. It is convenient to picture the degree of involvement as follows, remembering that these degrees merge insensibly into one another:

1. The process limited to the ducts and acini with but slight involvement of the periglandular tissue—the mild or catarrhal type.
2. The process limited mostly to the ducts and follicles with dis-

tinct involvement of the periglandular tissue—the moderate, follicular, or mild parenchymatous type.

3. The process involving all the structures of the gland, being marked in the stroma—the severe parenchymatous type, the end result of which may be suppuration of a large portion of one or both lobes, or of the entire prostate.

Treatment must be persisted in for a long time. A cure is rare in less than three months, usually requiring four to six months, and longer, of course, if the inflammation becomes chronic.

The severity of the symptoms, being indicative of the degree of pathological change present, is our most important guide in treatment. The symptoms presented are: Sense of weight and heat in the perineum; dysuria; frequency of urination; pain on defecation; pain in the perineum, radiating to the thighs, penis and scrotum; sensation of a foreign body in the rectum.

In the catarrhal type, the symptoms are mild. The prostate is found by rectum to be tender and slightly enlarged. In the mild parenchymatous type, the symptoms are more pronounced and the prostate larger. In the severe parenchymatous type, the symptoms are severe, fever may be high and continuous, and the prostate greatly increased in size.

The treatment in each case is based on our conception of the pathology present, and is guided by the severity of the symptoms. The indications are: To lessen the severity of the inflammation, and thus prevent suppuration; to rid the prostate of the infection; to evacuate the pus, if suppuration does occur, by operation, if necessary.

Therefore, in a case in which the symptoms are severe, indicating the severe parenchymatous type of prostatic involvement, the following measures should be instituted: The patient should be kept in bed and all local in treatment in use for the urethritis immediately abandoned. A hot Sitz bath of ten to twenty minutes duration, three or four times daily, reduces pain and tenesmus. Free ingestion of water and the prescribing of an alkaline antispasmodic diuretic relieve the tenesmus, and the pain due to irritation by a concentrated urine. A brisk saline cathartic daily helps reduce the engorgement. A mixed gonococcus vaccine is given to aid the resistance of the body to the infection. If retention occur, as it very frequently does, a hot bath and an injection of morphine often enable the patient to void while in the tub. If it does not, he must be catheterized. A soft rubber catheter should be used. Should difficulty in introducing the catheter be encountered, it should be tied in place, and retained for several hours. The soft rubber catheter failing, an elbowed one, either rubber or woven, should be used. As a last resort, a metal catheter may be necessary. A suprapubic puncture is practically never required. The use of rectal suppositories containing morphine and belladonna may be needed to control the pain, tenesmus, and recurring retention. In place of, or in addition to, the hot Sitz baths, rectal irrigations of hot saline solution are very valuable.

In from a few days to a week, the case will either show improvement, evidenced by the subsidence of the severity of the symptoms, or proceed to the suppurative stage, with the continuance or increase of the severity of the symptoms.

In the latter event, the question of when to operate immediately arises. This should not be decided in the affirmative precipitately. The process may even yet terminate by resolution; it may rupture into the urethra, which is common; rarely it ruptures into the rectum; and much more rarely into some remoter region. Therefore, if the symptoms do not become excessively severe, the process remain limited to the prostate, operation should be deferred, and the treatment given above continued. Only if the inflammation spread beyond the confines of the prostate, the symptoms become alarmingly severe, or not begin to subside in a few days, should operation be performed. Perineal section is the method of choice.

In a case in which the symptoms are only moderately severe, the procedure should be the same as for the severe type at the onset. In a few days, it will be evident whether the case tends to become more severe. If it tends to subside, light prostatic massage is begun, even though the tenderness of the gland permit no more than a half dozen light strokes. At first this is done with the bladder distended with urine, which is voided immediately after the massage. Later when the tenderness is less marked, and irrigations permissible, the urine is voided and the bladder filled with a germicidal solution immediately before the massage, and emptied immediately afterward. Thus the detritus pressed into the urethra is washed away. The solutions usually used are acriflavine 1-4000, nitrate of silver 1-5000, or permanganate of potassium 1-10.000 to 1-1500. In the early stage, the writer prefers the acriflavine. As the case tends to become sub-acute, the silver nitrate solution is preferred.

Massage, thus begun as early as possible, tends to prevent the subsidence of the inflammation into the chronic state by mechanically removing the inflammatory debris and stimulating the circulation locally. It is essential that it be not too forceful, nor of too long duration. Traumatism of the gland is harmful and should be studiously avoided. The force permissible and the duration of the massage are regulated by the tenderness of the prostate and the reaction of the patient. The pressure need never be more than moderate. The duration varies from one-half to two or three minutes. Epididymitis and exacerbations of the urethritis and prostatitis occur very much less frequently when the bladder is filled before the massage and emptied immediately after, than when an irrigation is given after it.

The use of hot Sitz baths, or the hot rectal irrigations should be continued. The vaccine should be continued for at least four to six injections.

In the mild type of involvement, massage is instituted at the onset, and is well aided by the hot Sitz baths or the rectal irrigations. The use of the vaccine may aid the overcoming of the infection and prevent its spread.

The prostatic massage should be repeated two to three times weekly, until the prostate is freed from the infection. Exactly when this occurs is difficult to determine. The amount of pus measured in terms of the average number of pus cells to the microscopic field varies quite constantly with the improvement of the prostate. The writer considers a prostate is freed of the infection when four smears of the expressed secretion taken at weekly intervals are normal—normal except that a slight increase of pus cells is permitted, not more than four to six to a very occasional field. The gonococcus must of course be absent.

As the result of the above treatment, the prostatitis is either cured or progresses into the chronic form. Exacerbations may occur at any time and are treated as indicated above. As the symptoms of the prostatitis subside the measures for the urethritis are resumed.

Gonorrhea—Its History and Early Treatment

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In considering the history of gonorrhea, it may be stated that inflammations of the urethra are as old as the human race itself, for we find that Moses, in Leviticus III, describes the disease and gives sanitary and police regulations for its control.

In 300 B. C., Hippocrates described the disease under the name of strangury, and after making dissections of the urethra, attributed the discharge to tubercles and fleshy proliferations in the canal. He states in his books that those suffering from tubercles and carnosities in their pipe will get rid of the disease by means of the suppuration and flow of pus. Aristotle, Plato and Seneca allude to gonorrhea in their writings, and Epicurus suffered so much from stricture and retention of urine that he committed suicide to end the suffering from an attack of retention of urine which had lasted fourteen days.

Galen first gave to the disease the name of gonorrhea, believing the discharge to be an involuntary loss of semen without erection.

In the Middle Ages the disease was described and treated by Italian, French and Moorish physicians, and it was well understood that the disease was contracted through sexual intercourse with unclean women.

A truer knowledge of the pathology of inflammations of the urethra was gained through the work of Morgagni. He demonstrated by dissections that the discharge was not caused by ulcerations of the urethra, and he proved the error of Galen's view by showing that the discharge originated from the urethral mucous membrane, and not from the seminal vesicles. He also discovered the lacunae of Morgagni, and indicated their importance in cases of chronic gonorrhea.

Before the advent of syphilis, gonorrhea was held to be a separate and distinct entity, but in the fifteenth century syphilis appeared in Europe and spread widely and rapidly as an epidemic. This new venereal disease excited so much attention that the study of gonorrhea fell into abeyance, and soon all the venereal diseases became confused together and were regarded as different manifestations of one and the same malady.

This period of confusion lasted for two hundred years and would have been cleared up sooner but for the unfortunate and misleading experiment of John Hunter. In order to settle the doubt as to the unity of gonorrhea and syphilis, Hunter inoculated himself with a purulent discharge from the urethra of a patient. In the course of time this inoculation experiment was followed by secondaries, namely, an ulcer on the tonsil and a copper-colored pustular eruption on the skin, and from this single experiment Hunter, who was temperamentally quick in arriving at conclusions, drew the inference that gonorrheal pus may produce a chancre and syphilis. In the light of our present day knowledge, it is, of course, obvious that Hunter inoculated himself with pus produced from a chancre concealed in the urethra.

In spite of this unfortunate experiment of Hunter's, there were a few physicians, notable among whom was Benjamin Bell, who maintained that gonorrhea and syphilis were distinct diseases, but the erroneous impression that they were one and the same disease, lasted until 1831, when Ricord made 667 inoculations and showed conclusively that gonorrhea and syphilis were two separate and distinct diseases. Ricord's knowledge of the causative factor of gonorrhea was uncertain, and he believed that inflammation of the urethra was brought about by various indefinite causes. It was not until the microscopic technique of studying bacteria was perfected that the existing cause of gonorrhea was found.

Albert Neisser, of Breslau, in 1879 and 1882, discovered and described the gonococcus. His observations were confirmed by many other bacteriologists, and this organism was then accepted as the causative factor of gonorrhea. Confirmation of these views was further made in 1884 by Bumm, who made cultures of the gonococcus and inoculations.

After the discovery of the exciting cause of the disease, in order to acquire a true knowledge of the disease, it still remained to study the changes in the tissues by means of the microscope caused by the invading organism. This was done by Bumm in the conjunctiva of infants suffering from gonorrheal ophthalmia; but it remained for Finger, of Vienna, to give to the world an exact knowledge of the changes in the tissues through actual microscopic examination of autopsy specimens from the urethra removed from patients suffering from acute and chronic gonorrhea and stricture.

Before this time attempts had been made to study the superficial changes in the surface of the mucous membrane by inspection through urethroscopic tubes, the first being a very crude affair designed in 1854 by Desormeaux. The next form of instrument which was used was an open tube illuminated with a reflected light from a head mirror. But a really efficient instrument was not found until Oberlaender devised the instrument which is responsible for our present day knowledge of the changes in the surface of the mucous membrane.

So much for the history of the disease. Let us now glance at the early forms of treatment.

The earliest rational form of treatment was discovered by Aretaeus in the second century. He used astringents in the bladder, cooling substances in the loins, embrocations of oil of dill or aromatic white wine, and his hygienic regulations were similar to those in use at the present day, namely, sexual abstinence and prolonged cold baths.

In the ninth century Rhazes used injections into the urethra or honeyed water or decoctions of quince seeds, and finally healed the inflammation with antimony. The pain of urination was relieved by warm vinegar or rose water, containing opium, injected into the bladder. But all the early treatment was not as logical as that which has been described, for we hear of Guy de Chauliac recommending the use of the excreta of pigeons internally, and advising applications of the flea or louse to the meatus as being of great importance!

The plain, every day common sense of Ambroise Parè, the Father of Surgery, was shown by the instructions which he gave to patients suffering with gonorrhea. He forbade all rich food and the company of women, even to seeing them in paintings or otherwise, recommended the use of cold baths, sleeping as little as possible, and considered useful a certain refreshing plaster which was to be applied to the loins and genitals. He recommended the use of turpentine, believing it to be an excellent drug in gonorrhea. He, furthermore, ordered his patients to avoid all things which heat the blood, and violent exercises. After the acute stage had subsided, Parè advised the use of injections containing aromatic wine, aloes, hydromel and absinthe. For chronic urethritis he recommended the application of an ointment which was applied with a little wax candle or sound wrapped in a piece of linen, and in chronic urethritis he used dilatations with "the largest sounds which the patient can endure" to obtain the best results.

But let us glance at the treatment of gonorrhea as used in 1849 and described by Ricord in his lectures. He was an ardent advocate of the abortive treatment by using strong injections of nitrate of silver, 15 grains to the ounce, accompanied by large doses of copaiba internally, administering 3 or 4 drams of the drug a day, to begin with, and increasing the dose; and his second choice for internal use was cubebs in equally heroic doses. In the stage of decline, Ricord used injections of zinc sulphate, acetate of lead and rose water, three times a day, and in obstinate cases advised strong nitrate of silver injections occasionally used, or an astringent, such as wine, tannin, rhatany, etc. If the discharge still persisted, he introduced bougies or pledgets of lint into the urethra to keep the walls separated. In the light of this treatment, we can understand Ricord's remarks to his students in his lectures. He would say, "Well, gentlemen, if after I die I should go to Hell, I know what my punishment would be. I should have half a dozen men standing around me, each with his penis in his hand, supplicating me with his prayers and his lamentations to cure him of his gleet."

The treatment as used by Ricord and other physicians here described was practically followed out by all the profession until the discovery of the albuminates of silver twenty years ago gave us a drug which fills Neisser's indications for the treatment of gonorrhea. The indications for the cure of this disease, as set forth by Neisser, are:

First. Destroy the gonococci in all foci within reach as early and completely as possible.

Second. In doing so, avoid irritation of the mucous membrane, any exacerbation of the existing inflammation, and everything else which has a caustic action on the tissues, together with the avoidance of all unnecessary pain, or, in the words of the ancients: "Cito, tute et jocunde."

Perhaps the greatest advance of all which has been made since the time that Ricord settled the question of the duality of gonorrhea and syphilis, is the recognition of the great principle that gonorrhea is a self-limited disease, and that the suppuration is the effort of nature to remove the invading organisms by enclosing them in pus cells and throwing them off from the body. With this in mind, and the knowledge of the pathological changes in the tissues, we stand with open minds, ready to receive new facts which the progress of biology or chemistry may bring to our aid. What lines the future treatment of gonorrhea may follow, by either destroying the invading organisms directly by chemicals, by increasing the body resistance through vaccines, by direct application of heat, or by some physical, biological or chemical force which is as yet undreamed of, no man can say. We can only wait and see what the future may bring forth.

Management of a Typical Case of Acute Gonorrhea

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I find the part assigned to me in this symposium rather difficult to handle without encroaching upon the field of some of the other speakers who will cover many of the points in detail. However I shall attempt to outline a few generalities which in my opinion are applicable to the average case of acute gonorrhea.

At the outset I am reminded of a remark made many years ago by some writer whose name I can't recall, to the effect that one of the first essentials requisite for the development of a good physique was to exercise great care in the selection of one's grandparents. By the same token I might say that the best way to treat acute gonorrhea is to begin treatment anywhere from two days to two weeks before we see the case. However it is with great satisfaction that I note that we are seeing our cases much earlier than we did when I first engaged in this line of work. Twenty years ago it was decidedly unusual to see an early uncomplicated case either in private or dispensary practice. Now, I am happy to say, we are seeing quite a few cases in the office and a fair number in the clinic. This I believe to be of great importance, for more benefit may result from intelligent treatment in the first ten days than can be accomplished in the next ten weeks or ten months as the case may be. Conversely, it is equally true that much harm may be done in the same important period. If we can see our patient in the early stage when only the first inch or two of the urethra is invaded—before the pathological processes have invaded the deeper layers of the submucosa, before a copious discharge has developed and when most or many of the goncocci are still extra-cellular, we have gone a long way toward effective and prompt recovery.

Let us suppose that we are so fortunate as to have such a patient apply for treatment. Let us further suppose that we have established our diagnosis, including a microscopic examination of the smear. (I hardly need say to this audience that no one can hope to intelligently treat any case of gonorrhea without a microscope at his elbow.) Now then, what shall we do for him? I believe our first duty, no matter how busy we are or think we are, is to sit down for a few minutes and talk the whole matter over with our patient. Impress upon him the serious possibilities of the disease. Impress upon him also the absolute necessity for his hearty co-operation in the treatment. The greatest urologist in the world will not get very far in the management of his cases unless he has complete co-operation upon the part of his patient. And right here may I further note that this is much more easily done than it was ten or even five years ago, indicating that some practical results are being accomplished by the educational propaganda which has been and is now being carried on by some of our colleagues. The patient should be impressed with the fact that directions as to general care and hygiene should not be considered as idle platitudes which may be respectfully listened to and then quickly forgotten, but that they are of vital importance to his prompt recovery. I remember rather an amusing incident which occurred when I was a medical student. There was a chap in the class who was not noted for his scholastic attainments, but who I understand has since become a very successful practicioner. The professor of medicine was conducting a quiz one day and asked this young man to outline the care and treatment of a case of typhoid fever. Our young friend spoke up promptly and said he would put the patient in the best room in the house—and then stopped. The assurance with which this meager amount of information was volunteered created quite a sensation among the student's fellows, but as I look back at it, it seems to me that the embryo physician was not so far wrong. He might do lots worse for a typhoid patient than to put him in the best room in the house and turn him over to an intelligent nurse. And so it is with acute gonorrhea. We might do lots worse for such a patient than to put him to bed with a jug of cold water at his elbow.

However, while it would be ideal to keep our patients in bed it isn't practical. But we can insist on as much rest as is possible and avoidance of exercise and muscular exertion. Abundance of water is of vital importance. There is no *form of irrigation* which surpasses an automatic irrigation. Sexual excitement must be scrupulously avoided. "Similia similibus curantur" has no place in the treatment of this condition. The diet should be bland and low in protein contontent and free from condiments, alcohol, etc. Cereals, milk and the like, and I repeat, an abundance of water. I tell my patients to drink eight glasses a day. Constipation should be carefully avoided. An impacted rectum makes an excellent setting for a complicating acute prostatitis. I believe a small dose of some saline laxative every morning is indicated. Of internal remedies there is just one drug, and one only, which stands out and which in my judgment is of proven value. That one drug is a good preparation of santal oil. I give it to all my patients—ten minims four times daily. I believe it lessens dysuria, the tendency to chordee, and to some extent, slight perhaps but still definite, has an inhibiting action on the propogation of the gonococcus. The only other internal remedies which I employ are the occasional exhibition of bromides and camphor for chordee. However, this is not a prominent symptom of a properly treated case of acute gonorrhea. I do not use alkalies. I have no doubt that they make the urine bland and lessen dysuria, but santal oil does this quite as well. My understanding is that the gonococcus thrives best in an alkaline medium, and I prefer to keep the urine acid.

Now as to local treatment, there are several important generalities here: Ordinary cleanliness and proper drainage are basic principles, and these objects cannot be attained if the patient (as often happens) goes about with a dirty rag wound round his penis and a dirty bit of absorbent cotton pressed tight under his forskin. The parts should be carefully bathed before and after each act of urination with luke warm water. The penis should hang in a loose bag suspended from the belt of a suspensory, in which a piece of absorbent cotton should be placed —again, at each act of urination. Of course, the patient should be warned of the danger of carrying any pus to his eyes. As a matter of fact I have never seen a gonorrheal ophthalmia in an adult, and I believe the danger is much exaggerated. Nevertheless in all fairness we must warn the patients against such a possibility. The patient should be instructed to wear throughout the whole time he is under treatment a well fitting suspensory. This may be the means of preventing a complicating epididymitis.

I shall say very little about the specific treatment. The long list of drugs which have at one time or another been used in this disease is well known to all of you. After a long period of skepticism I have become convinced that acriflavine has demonstrated its superiority to other drugs. While it has not measured up to the early extravagant claims made for it, it has in my opinion provided a most valuable weapon in the treatment of gonorrhea. Like every other therapeutic agent there are innumerable wrong ways to use it and doubtless many proper ways. My associate, Doctor Phillips, has worked out a method which has been entirely satisfactory in my hands. This will be discussed at length in a later paper.

A few further generalities and I am done. I believe acriflavine is often used in solutions which are too strong. This applies to its use in other parts of the body as well as in the urethra. Whatever agent we employ in the urethra should be applied to the urethra and not to the pus which is in it. In other words the patient should urinate and have his urethra thoroughly washed with plain water before each treatment. He should be seen fairly frequently and watched carefully. While I do not consider a hazy second glass in the absence of definite subjective symptoms of posterior urethritis is any contra-indication to local treatment; on the other hand it is a crime to continue with local treatment in spite of marked frequency, tenesmus and strangury. Yet I believe this is often done. In such cases all forms of injections and irrigations must be abandoned for the time. The patient must be kept very quiet, in bed if possible. Hot Sitz baths, copious fluids, santal oil and vaccines are indicated.

In conclusion I wish to congratulate our chairman upon his selection of a subject for this symposium. There is a tendency noted at most meetings of urological societies to entirely neglect this branch of our work for the consideration of more spectacular but by no means more important conditions. Most of us if we are frank will admit that a very fair proportion of our income is derived from treating clap. If this be true, and it is true, it behooves us to study it thoroughly and well. And finally I would say a word to the younger men. I know just how tired you get of what seems like the never ending job of treating clap. I know how your fingers itch to be taking out kidneys and prostates. I know it because I have been through the mill. Let me tell you that the proper management of a case of acute gonorrhea is every whit as important as an operation for prostatic hypertrophy. Prostatectomies and nephrectomies and pyelotomies all come along in the natural course of events, but there is a lot of work to do and much to be learned as you pass along the line.

Experiences With Some of the Newer Remedies in the Treatment of Acute Gonorrhea

Gray Phillips, M. D.
Brooklyn, New York

The introduction of the antiseptic dyes, acriflavine and mercurochrome, in 1917 and 1919 constituted the first marked advance in the treatment of acute gonorrhea since the advent of the colloidal silver preparations twenty-odd years ago. The treatment has become changed from what was practically an expectant one to a series of procedures whereby the gonococci are actively attacked in those parts of the urethra already infected, and what is equally important, the uninfected portions of the tract are rendered antiseptic and antagonistic to further development of the organisms.

For many years the compressor urethrae, or cut-off muscle, has been unduly credited as a barrier to the ascent of infection from the anterior to the posterior urethra. It is now known that bile is normally found in the stomach due to the fact that the pyloric sphincter allows its reflux in moments of relaxation. Recent work by Quinby, of Boston, indicates that there is a reflux of urine from the bladder up the ureters under certain conditions favorable to relaxation at the ureteral orifices. Pressure on the prostate by finger or fecal mass causes relaxation of the compressor urethrae, and it is easy to picture the transposition backward of infectious material to the posterior urethra from an inflamed urethral bulb, especially in the presence of an empty bladder. It is therefore not sufficient to employ only injections of the anterior urethra when indications point to infection of that site alone. When we had at our disposal only the mild silver compounds and the grosser antiseptics (protargol, argyrol, potassium permanganate, etc.) our careful instructions to earnest, intelligent, patients were too often followed by the development of posterior urethritis and its attendant complications and dangers. Even with acriflavine when it was first used at the Brooklyn Hospital in uncomplicated cases of acute anterior urethritis the results while better than with the agents previously used, were nevertheless not uniform. It was not until daily irrigations into the bladder were employed from the time of the patient's first visit, even though a deep involvement had not as yet occurred, that consistently satisfactory results were obtained.

Observations on mercurochrome indicate that while it is probably a more effective germicide than acriflavine, it is slightly more irritating and its brilliant red color renders it inconvenient to the nervous or clumsy patient who spills some on his linen or in his lavatory.

In employing acriflavine, it has been found that solutions of the dye in distilled water are as efficacious as those in normal salt solution. Either for irrigations or injections a strength greater than 1:4000 need not be used. Irrigations are given to patients while they are in a relaxed sitting posture, the Valentine reservoir being suspended not more than four feet above the thighs. The injections are taken by the patient twice daily by means of a blunt pointed urethral syringe and pressure is exerted by a bulb rather than by a piston. Injections are retained for a literal five minutes before being allowed to dribble away, and the glans is wrapped in a piece of clean absorbent cotton.

During the first week a daily irrigation is given and the patient injects himself twice daily. During the second week but three irrigations are administered but the patient continues the bi-daily injections. By the beginning of the third week the urine is clear with an occasional shred. At this time, following a preliminary distention of the bladder with four ounces of dye solution a curved sound, 27 French, is passed, and the urethra is gently palpated for infiltrated follicles. The patient then voids and his bladder is again distended, and he is instructed to abstain from urinating for an hour. The procedure is repeated on the seventh day. The injections may usually be stopped at this time, except those very rare cases where gonococci still persist. At any time during the next week it is usually safe to test the prostate for infection and to irritate the urethra in an endeavor to bring to the mucous surface any lurking organisms.

All patients do not need such long observation. It is not unusual for a man to be declared cured in eight or ten visits, the last two weeks of the month being occupied with tests to determine freedom from infection.

EDITORIAL

The Tonic Habit

IT WOULD be well worth while to enquire whether the administration of so-called tonics is or is not a real benefit to patients. The question arose in the writer's mind when it suddenly occurred to him that, out of the total number of his prescriptions, that for the elixir of iron, quinine and strychnine phosphate forms a very considerable part. A patient complains of feeling tired and depressed and one orders a tonic; the patient is convalescent from pneumonia and one orders a tonic; a child is a bit ailing and its appetite is capricious and a tonic is ordered; the young mother recovering from childbed; the over-worked business man; the surgical convalescent all get tonics. Why? The answer is "to make them feel better." What does a tonic do? That of course depends upon what the tonic contains. Tonics vary from stout and porter of antedeluvian times to the intravenous products of nowadays, but the most respectable and the most popular are those which depend upon strychnine for their major effect. Compounds of hypophosphites depend very largely for their stimulating property upon the strychnine which they contain. Most of them also contain iron and quinine beside the lime and soda phosphorus compounds. The elixir of the phosphate of iron and strychnine frankly declares itself as does nux vomica and the cinchona compounds. Therapeutically, they all accomplish about the same thing. Their bitter properties may or may not stimulate the appetite. The iron which they contain may or may not be a blood builder. The alcoholic vehicle produces a temporary sense of well being, but it is the strychnine that furnishes the kick. Now strychnine, according to "Hoyle," acts upon the spinal cord to produce over excitability of the motor centres as high up as the pons. It has a direct tetanic action upon the motor nerves. Upon the circulation, it acts as a vasomotor constrictor with a subsequent paralyzing effect. It probably acts directly upon the motor apparatus of the heart to produce increased force of the contractions and it is an active respiratory stimulant. From these considerations it appears that the effect of strychnine is to produce increased activity by excitation and dissipation of nerve energy. Therefore a sense of greater power and increased well being is brought about, *but* the wider one opens the tap the more quickly is the water wasted and in a patient who is already depressed and whose vital energy is inadequate this stimulation is at the expense of an already depleted nervous system and the administration of a tonic of this sort is exactly like flogging a jaded horse. In the days when diagnosis was of necessity limited to the interpretation of symptoms, it was logical to use such means as gave symptomatic relief, but as our knowledge of first causes has increased and is ever increasing, one must ask himself, if he be a conscientious practitioner, whether the routine use of tonics is not more harmful than helpful. Patients become tired and jaded because disease has made an inroad upon their reserve of cellular activity. It is obvious that one should under no circumstances increase this output, but should conserve it, for it is by physiological rest that energy is restored. The artificial stimulus not only helps to deplete the reserve, but it also produces a false sense of betterment which leads the patient to further exertion and thereby still further depletes it.

I would not have it understood that I decry tonics altogether. They have their use and will continue to have their use. In the psychology of treatment, much depends on the patient's experiencing a sense of improvement and within reasonable limits this psychic side must be borne in mind and treated, but the routine administration of tonics is a bad habit if for no other reason than that it leads to a habit of routine treatment which carries carelessness in its wake and inculcates slovenly habits of diagnosis, reacting badly upon doctor and patient alike.

H. G. W.

The Prevention of Diphtheria

THE action of the Brooklyn Pediatric Society in preparing a message to parents on the value of the toxin, antitoxin method of immmunization against diphtheria, cannot be too highly commended. The little leaflet which is reproduced below, is to be issued to physicians for distribution to their patients in order to bring this simple and effective method more widely before the general public. The effect should be a beneficial one in several ways. Not only will it educate the public but it will serve to keep the profession alive to their responsibility in utilizing this valuable prophylactic measure.

H. G. W.

The Prevention of Diphtheria

A Message to Parents:

Everybody knows that diphtheria is a dangerous disease. Everybody does not know that diphtheria is easily preventable, and can be stamped out by a new method of protection, quite as effectual as vaccination against smallpox.

Not all children will contract diphtheria even when exposed to it. Most children, however, between the ages of one and six years are liable to catch the disease if exposed. To which class does your child belong?

It is your duty to protect your child from diphtheria, as you do from small-pox.

This method is safe, does not make the child sick, and protects in 90 to 95 per cent. of cases for many years, and probably for lifetime. If all children were thus protected against diphtheria, the disease would soon be as rare as small-pox.

The Board of Health, the Board of Education and the medical profession recommend it.

The Brooklyn Pediatric Society, composed of physicians especially interested in children's diseases, urges you to see your family physician about this. He will tell you all about it, and is prepared to test and vaccinate your children at any time.

BROOKLYN PEDIATRIC SOCIETY.

Transactions of the Brooklyn Surgical Society

Annual open meeting of the Brooklyn Surgical Society held, at the Library Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, N. Y., in the McNaughton Auditorium, Thursday, March 2d, 1922, at 8:30 P. M.

Frank D. Jennings, M. D., President *pro tem.,* in the Chair.

PROGRAM

Paper: "Cancer—Surgery or Radiation"; lantern-slide demonstration. Dr. Francis Carter Wood.

Discussion by Drs. William F. Campbell, J. Bion Bogart, William Linder, John G. Williams, William B. Brinsmade, J. Sturdivant Read, Adolph Bonner and Francis Carter Wood.

Robert F. Barber, M. D., President; Thomas M. Brennan, M. D., Secretary.

Remarks by Frank D. Jennings, M. D.

IN THESE days when everybody is being uplifted willynilly; when public welfare is the popular shibboleth; it may be worth while to take stock a little bit and inquire whether the efforts for the public good are bearing the sort of fruit that grows on fig trees or on thistles (there are certain humble but determined people that prefer to browse on thistles). A glance at 1921 in retrospect from the February number of *Health News,* a newspaper account of agitation that the Physicians' Protective Association of Buffalo has undertaken and vivid recollections of the Shepard-Towner bill which passed and of well-nigh countless abortive legislative assaults on the public health. The Buffalo physicians are up in arms because of a proposition to unite all of the hospitals and health agencies of the city into one great health center and as a result of their agitation they proved by the mouths of many witnesses that a very large proportion of the patients who were being treated at health centers were well able to pay for professional care and apparently were being urged to seek free treatment in order that the health agencies might pad their statistics and thus get increased appropriations from the city purse. So much for Buffalo.

The activities listed by the New York State Department of Health are so numerous and so diverse that one gasps a little, especially when he glances through the report of the division of Public Health Nursing, of Child Hygiene, of Tuberculosis, of Public Health Education and of Venereal Diseases. There is also a page on Health Talks by Wireless, which briefly mentions the activities of the American Red Cross in Boston and of the U. S. Public Health Service which is sending out bi-weekly wireless Health Bulletins. It is a question that needs to be deeply pondered as to just how far free Health Agencies should go in serving the public and just what the effect on the individual of unlimited free treatment is likely to be. For many years there has been an acrid dispute between those who would give to the poor as a matter of right and those who wish to make the poor earn what they get. Pauperization is the war cry of these conflicting forces. Psychologists agreed that man values most those things which he has achieved and that those things which are free are of little account. They also recognize that to make a thing desirable it is best accomplished by forbidding it. As witness those formerly reputable citizens who used to hold up their hands in horror at the Kentucky moonshiners but who are now distilling their own hootch, because forsooth, it is forbidden. Now these two principles with their corollaries must be brought to bear on the determination of how far it is practical to go in providing free health agencies of any sort. Not only must the effect upon the general public be thoughtfully considered, but its opposite reaction upon the agents of public health—the physician—must be carefully calculated. In the past, the practice of medicine has attracted men of a particular cast of mind. Men who possess in no small measure what is known as the artistic temperament whereby they are in some measure idealists, tenacious of prerogative, intolerant of restraint, strong in their own convictions and apt to lose sight of the broad horizon because they concentrate on details. With these psychic drawbacks they combine a wealth of human kindness, of self-sacrifice and a profound sense of duty that makes them all too ready to acknowledge other people's right at the expense of their own and of their families. What is likely to be the effect on human beings made up in this way when they discover that they are being exploited in the name of the poor and helpless for the benefit of those who are well able to pay for services rendered?

Let us get away from the complications of modern civilization and reduce the problem to terms of primitive man. Suppose the doctor to be what he once was, the priest of the primitive community, and the question to be deliverance from some local plague. Did the villagers get together and say to the priest "get busy and deliver us from this horror, by virtue of your office"? They did not. Every one of them brought something to the temple as an offering to propitiate the gods and they besought their priest to intercede with the deity that the pestilence might be stayed—and mark this particularly—they each gave according to their ability. Today this problem of the public health has become specialized and while the Doctor is still the Priest of Esculapius he is no longer besought except by individuals. There has arisen a class of clever, self-confident, but withal narrow-minded folk, who recognize that it is possible to live without working by persuading the public that they should make others work for them. They preach that every human being possesses the inherent right to a share in the industry of every other human being. They will hav us believe that they can remove the incentive for industry and still leave behind all the nobler traits of character and they preach that the State, that is, the growth adequate of dwellers in a certain place, shall lay upon certain individuals one form of service and other forms upon still others and by way of reward shall grant them enough bread to satisfy their hunger and rags enough to keep them from cold and they pretend to believe that the glory of service would be an adequat reward and will satisfy by some inherent quality that takes the place of material reward. Now as a matter of fact, we believe heartily in the nobility of service; in point of fact our worldly returns from the conduct of this Journal are the best proof by reason of their littleness that it is joy in the doing which is the incentive to keep on doing. We also believe that it is right that the community should choose for its servants those who are best fitted for the task, but we recognize that what has been true since the dawn of history, is true today and that is, that we are still discouragingly human and that it is impossible to force servitude upon any man or group of men and that the moment that arbitrary bounds are placed to any man's activities so that he ceases to work for the joy of the doing, he becomes at once like those whole-souled enthusiasts, the artists of Sing Sing who make shovels and shoes, not because they like to, but because they have to. Upon the other class of people, the recipients of such service, there is a converse reaction. The member of the benefit society who pays fifty cents a month for unlimited medical attendance, at once assumes an arrogant and exacting attitude toward the lodge doctor, at the same time that he questions the quality of the service that he receives. The member of a city department who accepts the services of the city-paid physician seldom accepts those services at their true value, even though that physician may be as several are, attached to medical schools and rated as among the best by their fellow practitioners. These facts are incontrovertible and yet there is a steady pound by the paid advocates of socialism which is accomplishing results little by little as witness the examples already cited. Bearing in mind the peculiar reaction to the 18th amendment and the Volstead Act, holding constantly before us the example of Lodge practice, it is incumbent upon physicians to strive constantly and unitedly against what is a real and constantly growing evil. On the other hand we must not for one moment forget that we are in duty bound to render the best service of which we are capable in return for reasonable fees and we are equally obligated to hold ourselves constantly abreast so that we are at all times equipped with the genuine advances of medical science.

Surgery Versus Radiation*

FRANCIS CARTER WOOD, M. D.
New York City

THOSE who are engaged in the practice of the art of operative treatment of malignant growths find themselves at the present time in a very peculiar and not altogether happy positon. Their work is being challenged, not only by their professional brethren, but by the lay public. Is it possible that, after all these years of successful surgery of cancer, the knife is to be abandoned and radiation substituted? Is it true that the cautery knife is to replace the scalpel? Shall the surgeon do a partial removal of the tumor in inoperable cases or transfer them immediately to the radiotherapeutist? Are operative results even when the conditions are favorable all that they should be? Having abandoned the three-year period of observation and retreated to five years, must the surgeon wait still longer before he can claim a permanent cure of cancer? Even the pathologists are pointing out that recurrences after five years are not so very infrequent.

If the therapeutic results attributed to radium and X-ray have done nothing else, they have at least greatly improved the critical attitude toward their own work of those doing neoplastic surgery and compelled a thorough stock-taking among the real surgeons who think of something beyond the mere mechanics of operation. The criticisms of operative results by those who believe in radiation methods are beginning to compel appreciation of the fact that there are advantages in specialization, that certain men can do hysterectomies better than others, that in cancer of the lip it is not the best thing to cut out the cancer as closely as possible to the tumor and leave the lymphatic drainage untouched, that, in other words, there are fields in which the generally trained surgeon is relatively incompetent. Hence, the surgery of cancer is coming to be regarded by the more thoughtful members of the profession as a highly skilled specialty into which no one should be admitted who has not a great deal more knowledge of pathology and of regional anatomy than has the routine operator. It is, in addition, being frankly confessed by most surgeons that the results of cancer surgery are disappointing for many reasons, among which are the defects in diagnostic methods, the tardiness with which the patient consults a physician even after the tumor has grown to a considerable size, and the natural limitations of surgery itself, always a mutilating process and not to be employed unless a reasonable certainty of success can be assured the patient. As John Hunter said, "The necessity for operation is in truth the defect of surgery." Today a surgeon who operates on an extensive neoplasm without first demonstrating that the mediastinum and lungs are free from tumor is, or should be, severely criticized. The realization of the imperfections of tumor surgery have also led to some thorough investigations of final results. The statistics of the Codman Committee have already shown how astonishingly few sarcoma patients remain permanently cured. As an example of the situation as it exists today, a survey of the cases of malignant disease admitted to St. Luke's Hospital, New York, during the last two and a half years, has shown that not more than one case of cancer in five enters the institution in time for an operation with any promise of cure.

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*Read at a meeting of the Brooklyn Surgical Society, March 2, 1922.

Another disheartening thing is the fact that there is a continuous rise in the deaths from cancer as reported yearly from the Census Bureau in Washington. No doubt a large part of this increase is due to improvement in diagnosis and to a weakening of the popular belief that cancer is a disease which should not be mentioned. For it has been noted that as far as the public is concerned heart disease is fashionable enough to warrant its mention in connection with the patient's obituary, even though the physician realizes that some types of heart disease are not always of honorable origin. Tuberculosis, although it has lost its popular appeal as a method for gracefully removing the heroine from the romantic novel, is nevertheless considered good form and may be referred to in public. But cancer is still absolutely forbidden as a topic of conversation or as a published cause of death. In my own experience three physicians who died of malignant tumors were certified as passing away from pneumonia or from heart disease. As long as these popular taboos play the part they now do our cancer statistics will continue to be imperfect.

Besides the burdens laid upon neoplastic surgery by the conditions mentioned, we have an additional source of grave disturbance of the surgeon's serenity. These are the statemnts made by those who have great faith in the curative powers of radium and X-ray. The true believers point out that while surgery is mutilating, is unpleasant, requires anesthesia, and opens blood-vessels and lymphatic channels, thus hypothetically facilitating the distribution of tumor cells which may destroy all the beneficient effects of the operation, radiation does not disturb the tissues, is painless, does not mutilate, and cures, at least in as high a percentage as surgery. Unfortunately, the radium and X-ray workers have talked a great deal about "clinical cures"—a convincing method of calling attention to the fact that while the "cured" patient may some day die of cancer, at the present time he is oblivious to that possibility. The surgeon rarely deludes himself in this fashion, and especially not the one who operates in a small country town where the results of his surgery are exposed to the public gaze. In great cities where, after operation in the fashionable hospitals, the patients die in the city institutions, the surgeon still retains in some instances a rather unjustifiable optimism. But in the smaller towns there is very much less enthusiasm for the operative treatment of cancer, and one of the results is that quackery is more rampant in them, because a patient who knows he has a cancer and has been told that he is inoperable will seize at any straw.

In some respects, the claims of the radiotherapeutists are justified. Their methods do not cause great damage to the tissues; moderate scarring and an occasional severe burn are usually the limit of the damage which they do. The painless quality of their ministrations is, however, somewhat imaginary. Some patients who have undergone both surgery and radiation have told me that they prefer the former. The effects of surgery are all over within a few days, while the pain following the insertion of radium needles or the nausea and depression following heavy doses of X-ray remain for days and weeks.

The important question, however, is, do these radiation methods cure? While there is but little doubt that surgery in many instances has produced permanent cures, the evidence is not so clear with radiation. The extraordinary immediate results so often obtained have led to exaggerated hopes; and sometimes these hopes have been translated into actual published statements of cure, although only a few months later the patient was on the autopsy table and found to be permeated with cancer. All this premature overstatement of results has in the minds of many reacted very unfavorably aganist radiation. When a certain clinic reports that 50 to 60 per cent of cases of cancer of the breast are cured by X-ray, we remember that from the same source came twilight sleep. When the statement is made that radiation is in all cases the treatment of preference for cancer of the tongue, we question whether such a statement should be made until it could be shown that a considerable percentage of the patients so treated have survived for five years and at the end of that time are free of any form of new growth, for it cannot be denied that there are a good many cases of cancer of the tongue in which following operation there has been no return of the growth for eight or ten or even fifteen years. This obviously can not be said of either radium or X-ray, because it is only within the last two or three years that the technique of radiation treatment has passed out of the realm of mere empiricism and been placed upon an even fairly satisfactory foundation, and there is still much to be learned before radiotherapy will be really and finally on a scientific basis. One of the things still to be determined is the lethal dose for the various types of tumors—rather a fundamental for definite therapy, one would think, but nevertheless unknown.

In a popular address some years ago, I said that radium could not do anything that surgery could not do. That was incorrect. Radiation, both with X-rays and with radium, can in skilled hands produce extraordinary *palliative* results far beyond anything that surgery can accomplish, and this on totally inoperable tumors. Note that I say "palliative," not "curative"—for example, there is no question that in a number of cases of inoperable cancer of the cervix there may be after radiation treatment a return to clinical health for a number of years. A patient suffocating from pressure on the bronchi by a tumor of the mediastinum can sometimes, though not always, be greatly relieved for a few months or even longer. Carcinoma of the prostrate which has reduced a man to a shadow may be so inhibited in its growth that the patient regains his original weight and strength and is even able to return to his business for a time, and this with only two relatively short X-ray exposures a week. On the other hand, like surgery, radiation can do harm, for if very small doses are given, stimulation of the tumor may ensue, a fact which is now generally acknowledged by all those who are doing any kind of careful clinical work. It has been shown to be true of animal cells by Packard and the Middlesex Hospital workers, and of animal tumors by Prime and myself.

Turning to the question of cures, it is as yet impossible to judge whether or not radium or X-ray produces permanent cures of any malignant neoplasms except the basal-cell tumors of the skin. Concerning these, a sufficient body of information has been collected to show that, if proper treatment is given, permanent cures may be expected in a large proportion of the small sized tumors. Some of these tumors, however, even though small, are extremely resistant, and in others the involvement of bone and cartilage makes a successful attack upon them extremely difficult or impossible.

Another possible exception to the general rule is found in the myeloid sarcomata of the long bones. Concerning the nature of these tumors there is still some argument, but unquestionably a few of them have been really cured, and many of their cousins, the epulides, have been destroyed by sufficient quantities of radium.

A few five-year cures of the radiosensitive group of tumors known as lymphosarcomata have been published, but without sufficient detail to warrant generalizations. Many of these tumors disappear with great rapidity, only to recur elsewhere, and some, unfortunately, are almost absolutely resistant to any dose which can be safely applied.

All the rest of the great group of neoplasms which affect the human body are much more difficult to attack with radiation. A few successes have unquestionably been obtained in cases of epithelioma of the lip, but only at an early stage before the nodes have been involved. There will probably be a few radiation cures with the new needling technique initiated by Duane in cases of cancer of the tongue, again if the tumor is taken early; but in most of these patients palliative results only are possible. Carcinoma and sarcoma of the tonsil are so difficult to handle surgically, although a few cures have been reported, that they will probably be reserved for radiation treatment, but the prospects of ultimate cure are not hopeful. Carcinoma of the esophagus offers but little hope of permanent cure; in carcinoma of the stomach no claims even of cure have been made; in carcinoma of the intestine, the rectum is really the only area that can be attacked, and when it is remembered that by simple colostomy relief has been obtained for six, seven, and eight years, it becomes evident that statements of cures must be carefully judged. The great group of tumors of the lungs, the peritoneal cavity, the adrenals, the liver, and the prostrate, the retroperitoneal sarcomata, and the malignant tumors of the ovary are, in most instances, only palliated by any dose of radium which can be administered. It is possible that some of the less malignant bladder tumors can be cured, but since the high frequency spark is so effective in the pedunculated variety, and in skilled hands surgery has obtained more than 20 per cent of cures, radium must do much better than it has done heretofore if it is to displace these. Some strange results have been seen in the treatment of papillary carcinomata of the ovary, of the exact malignancy of which we are still somewhat in doubt; but there are a number of patients who have been free of symptoms for a long time following the use of the X-ray.

Carcinoma of the cervix is one of the most promising fields for radiation. There are a considerable number of five-year cures on operable, and a very few on inoperable cases. Carcinoma of the body of the uterus should be treated by hysterectomy, as the results are etxremely good, the tumor being of low grade malignancy.

Of the bone tumors, only the medullary giant-cell sarcomata just mentioned can be successfully handled by radiation. The other tumors usually metastasize into the lungs despite all treatment. Hohlfeder's statement that radiation is the method of choice is unconvincing.

Of the remainder, tumors of the brains, especially the dural endotheliomata, seem to remain quiescent for a long time with sufficient radiation. The gliosarcomata and even the gliomata may be arrested, but it is doubtful that they can be completely eradicated.

The partoid tumors, if they do not contain cartilage and are neither sarcoma nor carcinoma, seem to be rather sensitive, and there are several cases on record in which a patient with such a tumor has gone for a number of years after radiation without a recurrence.

Abdominal recurrences from testicular tumors have in some instances shown remarkable regressions, those of the embryonal type being especially susceptible; the teratomata with cartiage are always resistant. Operative removal should be practiced, with heavy post-operative prophylactic radiation with X-rays.

One tumor which seems to resist all our efforts is the melanosarcoma or melanepithelioma, arising in pigmented moles. The writer, however, knows of two cases in which the patient has survived for four years, one after light raying, and the other with no treatment at all. Pigmented moles in any position on the body in which they are subject to irritation should be removed by wide excision. Caustics, freezing, or radiation with radium or X-rays are absolutely contraindicated, as they seem often to start up a malignant process in the growth.

Is radium or X-ray preferable? is often asked. Each has its field. Radium is valuable in that it is portable ,can be placed in cavities, such as the uterus or inserted into the tumor encased in metal needles or capillary glass emanation tubes. Its action is intense but local, and it does not on the average give such severe general reactions as do equally effective doses of X-rays.

The Roentgen rays, on the other hand, have valuable qualities of their own. They are just as effective in killing tumor cells when they reach them as are radium rays. A modern high voltage X-ray tube will give off as much energy as many grams of radium at the same skin distance. In contract with the limited range of radium rays the broad beam of rays is of advantage in post-operative prophylactic raying in attacking scattered cancer cells. The new high voltage machines have come to stay, but they are effective only as giving large amounts of radiation of etremely penetrating quality, and not because they kill cancer cells with fewer erythema doses. Just so many skin erythemas are required to kill the cell no matter what the voltage or the filtration.

Hence, the extraordinary propaganda concerning the wonderful cures produced by high voltage is rapidly fading. Cooler heads, even in Germany, are pointing out that the effectiveness is one of degree only and that the astonishing results claimed by a few enthusiasts are rather the expression of hopes than the sober recital of observed facts. There is noticeably among those who have been working for more than a few years with radiation methods a gradually increasing undercurrent of scepticism, as to the permanency of the effects of radiation as at present practiced.

To sum up: Inasmuch as surgery has to its credit a large series of permanently cured patients, it is in my opinion still unjustifiable to substitute for it any other procedure until an equally good body for the latter is obtained. The success of surgical removal does not depend upon the biological properties of the cancer cell, while radiation treatment does assume that the cells are radiosensitive, a fact which it is impossible to determine at present. Animal experimentation has shown that tumors exposed to large doses of either radium or X-ray reappear only after long periods of time, and I believe that in judging of radiation results it is necessary to extend the five-year period. Even without this extension the figures, although presented by the most optimistic worker in the vineyard, do not as yet in any way equal the final results of surgery. It is certainly true that surgical recurrences are apt to take place early, since the vitality of the cells is by no means injured by operation, and, therefore, the surgical patient dies rather soon after an incomplete operation, while a radiated patient may survive longer because there has been no distribution of the tumor by the opening of tissue planes or drainage channels, and the vitality of the cells has been actively damaged by the rays.

It is not yet finally settled whether the inoperable case should be radiated or should be operated on and then radiated. In the future, in all probability, inoperable neoplasms will be treated by radiation only. Yet when all our present information is surveyed it is still my opinion that all operable tumors should be treated by surgical removal. I wish some of my surgical colleagues would attempt to develop the use of the cautery knife. This has so many theoretical advantages, despite its practical inconvenience, that it would be well to have the method thoroughly tried out. The pathologist sees many skin recurrences after tumor surgery, showing the seeding of the tissues either by massage and manipulation of the tumor during operation or by the squeezing of living tumor cells from charged lymphatics, which mar the results of many an otherwise admirable operator on that most favorable site, the breast.

I should like also to see expressed disapproval of any attempt at speed in a surgical operation on a case of cancer. Halsted showed years ago that by the employment of careful hemostasis the time of an operation could be extended to any necessary limit. The practice of attempting to remove a carcinoma of the breast in half an hour means that while the immediate danger from the operation may be lessened the future of the patient is at the same time jeopardized, and cancer must be regarded as a more inevitably fatal disease than post-operative pneumonia or shock. Unless the surgeon does his best in each individual case and remembers that the only time to operate is the first time, and that a second operation is always a confession of incomplete removal of the primary growth, the public will gradually drift to the X-ray and radium therapeutist, preferring palliation without surgery to palliation with it. There is a tendency among many surgeons to take tumors too lightly, to "hope that the tumor has been all got out," to strive for cosmetic and functional results, and to forget the inevitability of local recurrence and the subsequent course of events. In other words, tumor surgery must be greatly improved and extended, it must be bolder and more extensive, and it must be applied in more carefully selected cases than in the past. Those patients to whom operation offers but little hope should be transferred without meddlesome surgery to some competent radiotherapeutist. I say "competent," because there is no other field of the higher quackery in which so much damage has been inflicted in hopeless cases of cancer by ill-judged treatment. The use of a few milligrams of radium or of a few minutes of X-ray can result only in the stimulation, not in the destruction, of a tumor. With our increased knowledge of the methods of application of radium and the development of the high voltage X-ray machines and of tubes to correspond, there is going to be in the near future a great improvement in the radiation treatment of cancer. The surgeon instead of opposing this should do everything he can to make himself familiar with the methods and results, and thus to raise the standards of tumor therapeusis. It is really more important that the life of the patient should be prolonged in all possible comfort than that the inability to achieve the impossible by surgery be once again demonstrated.

The question of the value of pre-operative and post-operative radiation of the entire surgical field is genrally impractical, as poor healing of the wound will inevitably result. Intensive raying of the growth only with very heavy doses lethal to all the tumor cells exposed is a possible procedure, but only in tumors near the surface in which the growth and the entire radiated skin area is excised within twenty-four hours. Post-operative raying, when properly done, in the opinion of many reliable radiologists produces important results. The technique is still in the process of development and there is much to learn, but as it supplements the work of the surgeon the procedure should never be omitted.

In conclusion: You will see that the title of my paper is wrong. It should have been "Surgery Plus Radium, Plus X-ray." Each has its rightful place in in the treatment of cancer, and by an intelligent combination of operation with radiation better results in the treatment of neoplasms will undoubtedly be obtained in the near future. But at the present moment we are still far from having any very effective control over the cancer situation.

Dr. William Francis Campbell:

"I am sure we are all very much indebted to Dr. Wood for coming here tonight and opening up for discussion the cancer problem. It is a problem which, as Dr. Wood has said, has challenged the skill of the physician from time immemorial and still challenges it. It is a problem in which every one, whether he is young or old, in the profession, whether he is a physician or a surgeon, is interested, because we have all tried in our small way to solve this problem, and the curious part of it is that the longer our experience and the more extensive our observations the more dissatisfied we are with the treatment of cancer.

"It seems to me that it would be a very profitable evening if we could just turn this open meeting tonight into a sort of experience meeting and let every man give his own experience and observations concerning the treatment of cancer, and let us make it, as Dr. Wood has said, a sort of a family affair, a sort of confession on our part; and I want, in the first place, to make one or two observations, a confession, and possibly a suggestion. Those of us who have been interested in educating the public concerning cancer, and coöperating with the American Society for the Control of Cancer, and giving to the public the facts about cancer, have not been satisfied with our ammunition. When we come to talk about the curability of cancer, we start off and tell the public cancer is curable, and it is very essential to take this positive stand about cancer and assert that it is curable, in order to combat the absolutely hopeless attitude which the public assumes on the question of cancer. You all know a woman will hide a tumor of the breast a long time before going to the doctor, and if you ask her why she has not consulted a doctor about it, she will tell you it was because she is afraid it is cancer. In other words, if it is cancer the case is hopeless and if it is not cancer it does not make much difference.

"Now, in order to counteract this hopeless attitude of the public toward cancer we must make a very definite statement that cancer is curable. Now, the next thing that we must tell the public is how cancer is curable! and we have been telling them, by an adequate operation, and, then, Dr. Wood, we get into a culdesac. They ask us this question, 'You say that cancer is curable; that it is curable by early and adequate operation. Well, doctor, are all the cases of cancer that you operate on cured?' Well, the answer is, 'No, they are not.' Only a lamentably few are cured compared with the number of cases we operate. And the first observation I want to make is this—the statistics which we have concerning the curability of cancer are far higher than they should be. The statistics say that one out of every four cases of cancer of the breast is cured by operation—25 per cent. Well, if you ask a man who has been out a short time he will say 25 per cent is rather low. If you ask a man who has been out twenty years he will say 25 per cent is entirely too high. If you ask a man who does not follow his cases and does not know the ultimate result of his work, he will tell you 25 per cent is entirely too low. But if you ask a man who does follow his cases in order to ascertain what the ultimate result of his work is, he will tell you 25 per cent is very high. In other words, long periods of obesrvation leads to a very conservative estimate of cures.

"I think that one of the things every young surgeon should impress upon himself is the fact that survival of operation does not imply success of operation, and I don't know of any better illustration of that statement than our experience with gastro-enterostomy. We have all been doing gastro-enterostomies for a long time and the majority of our patients survive and we dismiss them with a good deal of satisfaction, but when we consider that only 25 per cent of the patients remain free from symptoms after gastro-enterostomy, we rather conclude that gastro-enterostomy has been overdone; and I have been wondering whether in our surgical operations for cancer we have not overdone surgery. I mean whether we haven't gone too far in radical operation.

"I think that the surgeon's attitude toward cancer at the present time is something like this: He feels that the operation which he offers for the cure of cancer has reached its anatomical limits. There is nothing more to be done in the way of extending the operation or refining the operation: it is finished; and yet in spite of that, the cures are lamentably few. I cannot help but think that every time I do a radical operation for cancer that I wish I didn't have to do that extensive dissection of the lymph glands, and I tell you why. I agree that extirpation of the primary focus is sound; but when I am exterpating the lymph glands I cannot help but think that those glands, arranged in groups and placed in strategic localities of the body, are there for a purpose, and it is for the protection of the body from the invasion of noxious substances, and when I dissect those glands out, I wonder if I am not destroying the last line of defenses and opening up new channels for the invasion of cancer cells. I wonder whether surgery hadn't better confine itself to the original focus and let radiation do the work on the lymphatic glands, which will tend to seal up the avenues of invasion rather than open them.

"That is one confession I have to make. Now, there is another thing we ought to consider, and that is this: In dealing with cancer we are dealing not with the same cancer in each individual. Cancers differ in types. There is something in the seed and the soil which modifies the virulence of the cancer. If we could type our cancers, Dr. Wood, the way we type our pneumonias, we might find that, like a Type 3 pneumonia, we have a very virulent cancer to deal with in certain cases, or, like a Type 4, we have a very mild cancer to deal with. If we could do that (the time may come when we can), I am quite sure that we would be able to explain some of the results which to us remain quite unexplicable. This suggestion I also want to offer—Once a cancer patient, always a cancer patient. I mean by that when a patient is operated for cancer, or treated for cancer, that patient should never be dismissed from the doctor's care. I mean that when a patient has been operated on for cancer that he should not be a patient discharged, but a patient on parole. I believe that every one of our patients whom we treat for cancer should report back to the surgeon for the first six months every week, during the second six months every month, and after that every three months as long as he lives. I am quite sure since I have been doing this I have been able to discover many recurrences when they were very small, and by being able to extirpate them, I have prevented the patient from going on the way that a great many of these patients have gone in the past when this procedure was not followed.

"I think, Dr. Wood, we haven't got to that stage in our development yet where we can say, Is it surgery or radiation? But I think we have arrived at the period of development where we can say that the modern treatment of cancer is surgery plus radiation. One is the complement of the other."

Dr. J. Bion Bogart:

"I am unable to contribute to the discussion, but would reëcho what our colleague, Dr. Campbell, has said. As we grow older and are able to follow our cases further w ebecome very conservative as to the estimate of what we can do for cancer with surgery.

"Perhaps I might interest you for a moment by telling you of a case of cancer of the breast I had operated upon that remained well for seventeen years and then had a recurrence, and, in spite of the assistance of one of my X-ray friends, the patient succumbed after about a year. So when we talk about curing cancer, we certainly must assume a very cautious attitude. That was not a five-year cure, nor a ten-year cure, nor a fifteen-year cure: it was a seventeen-year cure. Unless the patient dies of some other disease we never feel sure we have *cured* a case of cancer.

"With the help of such a man as Dr. Wood I feel more encouraged about the problem (of cancer) than I did before. It has been particularly grateful to me to have had the matter presented scientifically. I feel tonight as though I knew a little of where we are at in the radium treatment of cancer. Some of the things he said were encouraging but most were discouraging.

"About a year ago I attended a discussion of the treatment of malignant disease at the Surgical Section of the New York Academy, in which one of the speakers, a prominent surgeon, spoke hopefully of radium treatment of cancer of the prostrate. I came away very much encouraged, in spite of the fact that the speakers were not all in agreement. Now, Dr. Wood tells us we can do nothing for the prostatic cancer with radium.

"Perhaps I might be better off if I were not so thoroughly under the influence of Dr. Wood's very able and frank talk this evening. I feel as though I had been through a very severe operation and had hardly recovered from it; but I want to give voice to my deep gratitude to Dr. Wood, especially for the frankness with which he has dealt with the subject. That is what we need. Perhaps some of the younger men don't feel as some of us feel who have been working longer; but when you get to the point where Dr. Campbell and myself have got—Am I right doctor?"

Dr. William F. Campbell:

"Positively."

Dr. J. Bion Bogart:

"We like to tell the truth."

Dr. William Linder:

"I have been instructed and am greatly indebted to Dr. Wood tonight for his admirable exposition of the cancer problem.

"It is very peculiar that for some years I will go on and operate on canecr cases and feel very much encouraged. I will have a series of successful cases and pat myself on the back and conclude that my results are due to my radical surgery. Then, again, I will have some cases in which I am very much interested and do the utmost for them, and although apparently early cases the results will be very discouraging.

"I would like to speak now of a very dear friend of mine, a relative, in fact, who had a tumor of the breast for a period of six months and who only lived a block away from me. She had had three or four surgical operations, so it might be said that she should not have been afraid of surgery, and still she used the very argument that she did not come to me early with this tumor mass because she knew it was cancer and knew I would advise operation. She was operated upon and radiated extensively and was very faithful in her after-treatment, but died a most horrible death. I don't believe she had a square inch of her entire body that wasn't filled with cancer nodules and glands—she had metastases everywhere.

"However, I still feel we have a duty to perform in spite of this gloomy picture in our propaganda work, and that is to instruct our patients to come to us early for operative intervention in certain cases.

"I believe radical surgery in cancer is absolutely necessary.

"I fully agree with Dr. Wood in the statement that it is very bad surgery to think only of a perfect cosmetic result and the difficulty of the closure of the wound when operating for cancer of the breast. In cancer, the surgeon must operate with the idea of removing all the diseased structures together with the lymphatics, and the closure of the wound is an after thought. That is one point I desire to emphasize.

"The second point I wish to refer to is that a good many abdomens are opened by surgeons who find growths present, particularly in the colon, the type that perforate, or are already in the stage of perforation, and are adherent to the parietal peritoneum, with extensive glandular inflammation, and the surgeon turns around and says to his audience, 'This is an inoperable case.' I have seen that time and time again and the pathologist made a study of those glands which were enlarged and found the great majority of them were inflammatory. I remember six or seven such cases, so-called inoperable cases, in which I have done extensive resection, even in the presence of a perforative colon and abscess cavity, and the patients are alive today, three, four or five years after the operation.

"I fully agree with the doctor on the question of cancer of the cervix and have given up operating for that condition. Such cases are better treated by radium. I have had a few satisfactory results by thorough radiation with the radium needle and radium inserted in the uterus. The only danger is that in doing this work we might give an over-dose. I have seen considerable irritation of the rectum and bladder due to over-dosage. So far I have not had the misfortune to have a perforation. I now have a case under treatment where there is a considerable burn in the rectum; it is, however, yielding to treatment and the patient is apparently very comfortable.

Associated Physicians of Long Island

Minutes of the Meeting Held June 10th, 1922

The Seventy-second Regular Meeting of the Associated Physicians of Long Island was held at the Kings Park State Hospital, Kings Park, N. Y., on Saturday, June 10th, 1922, and was attended by about one hundred guests and members. Doctor William C. Garvin, the Superintendent, and the physicians of the Medical Staff of the Hospital were our hosts and their courteous efforts to make the meeting a success were attended with most decidedly enjoyable results, for the meeting was one of the best we have ever held, the only drawback being that that we had to limit our time at the Hospital, because of the necessity of taking an early afternoon train for home. Those who went down in their cars were not so handicapped, but all would have enjoyed a longer stay.

The members assembled in the theatre of the hospital and listened to an address of welcome by the Reverend Father York and one from Doctor William C. Garvin, Doctor Garvin telling us, also, what the hospital was doing to better the condition of the insane, in every way, stating that he felt the Brooklyn men should know more of the Hospital work as so many of the patients treated were from Brooklyn.

A short business session followed during which Doctor James M. Winfield moved, and the motion was seconded and carried, that the Publication Committee be instructed to make inquiries as to the ways and means and the advisability of making the Long Island Medical Journal a weekly, instead of a monthly journal. The motion was discussed by Doctors W. H. Ross of Brentwood, A. D. Jaques and E. H. Bartley. The committee was ordered by the motion to report at the October meeting 1922.

Thanks were voted to the superintendent and the medical staff of the hospital.

After a most satisfying and enjoyable luncheon there was an inspection of the buildings in which the members were greatly interested.

The Membership Committee presented the following names of candidates for election to membership and these names were ordered, unanimously, to be added to the membership list:

Proposed by Dr. Maurice E. Connor—

Dr. Emma H. H. Antonius, 108 Newell St., Brooklyn, N. Y.; Women's Medical College, New York Infirmary, New York, N. Y., 1891.

Dr. Joseph Lawrence Pfeifer, 33 Orient Ave., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1914.

Dr. William C. Meagher, 604 McDonough St., Brooklyn, N. Y.; Medical Department Fordham University, New York, N. Y., 1918.

Dr. John Matthew Scannell, 364 Jefferson Ave., Brooklyn, N. Y.; University and Bellevue, New York, N. Y., 1904.

Dr. Herbert W. Casey, 802 Greene Ave., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1899.

Dr. William L. O'Connell, 110 Milton St., Brooklyn, N. Y.; New York Homeopathic, New York, N. Y., 1919.

Dr. John J. Black, 87 India St., Brooklyn, N. Y.; Medical Department Fordham University, New York, N. Y., 1918.

Dr. Richard A. Henderson, 168 North Sixth St., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1897.

Proposed by Dr. Luther Taylor Jackman—

Dr. George R. Hawley, 203 Gates Ave., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1892.

Proposed by Dr. James Cole Hancock—

Dr. Thomas F. Patterson, 190 Eighth Ave., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1896.

Dr. J. Elliot Langstaff, 19 Seventh Ave., Brooklyn, N. Y.; Toronto, Canada, 1878.

Dr. David M. Flannery, 424 Gold St., Brooklyn. N. Y.; New York University, New York, N. Y., 1880.

Dr. George J. Lawrence, 40 Murray St., Flushing, N. Y.; University of Pennsylvania, Philadelphia, Penn., 1907.

Dr. Joseph John Feminella, 53 Orient Ave., Brooklyn, N. Y.; Long Island College Hospital, 1918.

Dr. Kanzo Oguri, 214 High St., Brooklyn, N. Y.; New York Homeopathic, New York, N. Y., 1920.

Dr. Thomas G. Di Brizzi, 67 Garfield Pl., Brooklyn, N. Y.; New York Homeopathic, New York, N. Y., 1920.

Dr. John H. Flynn, 23 Revere Pl., Brooklyn, N. Y.; Medical Department Tufts College, Boston, Mass., 1913.

Dr. John Brinkman, 1427 East Thirty-seventh St., Brooklyn, N. Y.; Jefferson Medical College, Philadelphia, Penn., 1919.

Dr. Chester Tilton Stone, 62 Pierrepont St., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1915.

Dr. Pierre A. Renaud, 305 Sixth Ave., Brooklyn, N. Y.; Long Island College Hospital, Brooklyn, N. Y., 1913.

Dr. George Agustine Sheehan, 429 Clinton St., Brooklyn, N. Y.; Medical Department Fordham University, New York, N. Y., 1913.

Dr. Joseph Francis Ward, 411 Ninth St., Brooklyn, N. Y.; University of Baltimore, Baltimore, Md., 1899.

Dr. Paul Charles Fleri, 410 Clinton St., Brooklyn, N. Y.; Albany Medical College, Albany, N. Y., 1913.

Dr. Herbert W. Wickle, 43 Pierrepont St., Brooklyn, N. Y.; Vanderbilt University, Nashville, Tenn., 1919.

Dr. Irving L. Cabot, 922 President St., Brooklyn, N. Y.; Harvard Medical School, Boston, Mass., 1920.

Dr. Lorne M. MacDougall, 124 Arlington Ave., Brooklyn, N. Y.; Queens University, Kingston, Canada, 1913.

Dr. Stuart Close, 248 Hancock St., Brooklyn, N. Y.; New York Homeopathic, New York, N. Y., 1885.

James Cole Hancock, Secretary.

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

June, 1922 3 Pages

Diagnostics of Internal Medicine

THE DIAGNOSTICS OF INTERNAL MEDICINE, By Glentworth Reeve Butler, M. D., Sc. D., LL.D. Fourth Revised Edition. New York and London, D. Appleton & Company, 1922. 1,380 pages, 322 illustrations, four-colored plates. 8 vo. Cloth, $10.

The announcement that the Messrs. Appleton have put out a fourth edition of Butler's Diagnostics should in itself be enough without adding any extended review. A book that has been so long the standard in its field both as a textbook and a book of reference needs no commendation. It long ago earned its position and it has kept it through the succeeding editions. The new edition, while it preserves the original form is for all purposes a new book inasmuch as it has been practically rewritten from the beginning. This was necessitated by the many changes which have taken place in our conception of disease, as for instance, nephritis and diabetes mellitus, and because of these changes it was not sufficient merely to add new chapters to cover the important advances. As with the original work, the idea has been to present all available diagnostic material without verbiage. The book in consequence contains nothing that is not essential and on the other hand ,has omitted nothing that is. It may be fairly said of the present edition that it is as essential as a dictionary, as easy of reference and as authoritative as it is possible to make it. It is uniform in style and binding with the other Appleton publications and is fully up to their standard in press work and general appearance.

W.

Neoplastic Diseases—A Treatise on Tumors

NEOPLASTIC DISEASES; A TREATISE ON TUMORS. By James Ewing, A. M., M. D., Sc.D. Second Edition, revised and enlarged. Phila. and London, W. B. Saunders Co., 1922. 1054 pages, with 514 illustrations. 8vo. Cloth, $12.00.

Were we stocking an Eliot five-foot shelf of indispensible medical books, this volume would be one of the first to be placed thereon. It is a rich treasure-house of information, lavishly illustrated and written as few besides Ewing can write. As a student, our one complaint against Professor Ewing was inability to condense his lectures. He spoke rapidly, without notes, yet his style was a model of logic and clarity of expression. We know of no medical writer with such an appreciation of the shades of meaning of words or who uses them so effectively. One might search this volume critically and fail to find a misused or useless word or sentence. Ewing is never verbose. His sentences are so packed with meaning that they cannot be condensed or altered.

Great as is the value of this work to the pathologist, we believe it has a significant and important message for the practising physician and surgeon. The title, "Neoplastic Diseases," illustrates the author's skill in phrasing and epitomizes his contention that tumors are diseases, clinical entities, each to be considered by itself. In the admirable preface to the first edition, he says, "No one would think of confusing lobar pneumonia with pneumonic plague, although both are examples of acute exudative pneumonitis, but it is quite the rule to identify for statistical studies several equally different forms of mammary cancer. The former diseases are related only as forms of inflammation, the latter only as type of neoplasia." Though the average physician may find the paragraphs upon histo pathology somewhat over his head, he will find this book especially rich on discussion of the clinical varieties, features, course and prognosis of the bewildering number of tumors. Ewing is a master teacher and has drawn some remarkable pictures of neoplastic diseases. The rapidly accumulating data of the effects of radium upon different tumors strikingly corroborates his views upon the clinical entity of neoplasms. The lay as well as the medical public is deeply indebted to Ewing for this work, for it is only by education of the profession and the public along these very lines that we can hope to reduce the mortality from these dread diseases.

E. B. SMITH.

Psychoanalysis: Its Theories and Practical Application

PSCHOANALYSIS: ITS THEORIES AND PRACTICAL APPLICATION. By A. A. Brill, Ph.B., M. D. Third Edition, thoroughly revised. Phila. and London, W. B. Saunders Co., 1922. 468 pages. 8vo. Cloth, $5.00.

The time has long gone by when the neurologist can afford to turn up his nose at the "disagreeable implications" of psychoanalysis. The psychiatrist long since adopted the newer psychology as the only tenable working basis which would give him results in a fair proportion of the cases within his field. If these are facts and who can doubt them?—then the time has come when the general practitioner, the internist, and the pediatrist can no longer permit himself to be deprived of this important tool. To the deep student, the original Freudian texts may be indispensable. To most of us, however, Brill has acted as a very acceptable interpreter, not only of the actual linguistic difficulties, but as well of the foreign mental concepts embodied in this revolutionary conception of the mind of man. Even more acceptable to the beginner is this third edition of Brill's own compendium of the new science, "Psychoanalysis—Its Theories and Practical Application." His handling of the much discussed and greatly reprobated Freudian idea of sexuality is straightforward, and without the faintest "suggestion of suggestiveness." If his use of the word is, as he says, just as broad as the English word love, or the Greek word epos, we can readily accept its appearance as the red thread running through the whole fabric of the life of the individual, whether sick or well. His brief resumé of Freud's progress via hysteria, hypnosis, and mental procedure which he named the psychoanalytic method, is both suggestive and informing. The book teems with practical suggestions, and lives through its interesting case histories. FRANK HOWARD RICHARDSON.

The Principles of Bacteriology

THE PRINCIPLES OF BACTERIOLOGY. By A. C. Abbott, M. D. Tenth Edition, thoroughly revised. Philadelphia and New York, Lea & Febiger, 1921. 686 pages, with 121 illustrations. 12mo. Cloth, $4.00.

This is a new, revised edition of a book which has long enjoyed a deserved reputation as one of the best of the shorter text-books on bacteriology. It is compact and concise, yet contains a fund of information. We believe it to be the only one of the new editions to give in detail a practical method for estimating the hydrogen-ion concentration of culture media.

E. B. SMITH.

The Defective Delinquent and Insane

THE DEFECTIVE DELINQUENT AND INSANE. The Relation of Focal Infections to Their Causation, Treatment and Prevention. By Henry A. Cotton, M. D. Princeton, Princeton University Press, 1921. 201 pages, illustrated. 8vo. Cloth, $3.00.

This book makes a plea for the intensive study of all mental conditions. This plea is well taken because the etiology of mental diseases is still far from settled, except in a few organic types. The largest group Dementia Praecox which makes up 50 per cent of the population in the State hospitals is still a very baffling condition and any knowledge which may be gained as to its causation will certainly be welcome. At the present time there are approximately 43,000 insane in the State Hospitals of the State of New York and one-half of this number consists of cases of Dementia Praecox.

As the author states psychoanalysis has had its day of popularity and the reviewer agrees with him that any results obtained from the use of this method will be almost exclusively with the psychoneurotic group. Very few of the psychoses have been permanently benefitted by this procedure.

The author is certainly very radical in his conception of mental disease and places under the group of toxic psychoses all of the so-called functional group. These comprise the acute and chronic conditions known generally as manic depressive, dementia praecox, paranoic conditions, as well as the psychoneuroses. He regards all of these as being due to a chronic intoxication and maintains that there are foci of infection causing this intoxication and that they are located either in the tonsils, the teeth or in the gastro-intestinal tract. He says that while the course and termination of various types in this class may differ materially, it has been found that the causative factors are the same. He says further that in one type hereditary factors may be prominent and in others the psycho-genic factors may dominate but in the entire class he has found the presence of chronic infection and the resulting toxemia is a constant and most important factor. He claims that he has increased the rate of recovery from 37 to 77 per cent. He looks upon the change in the mental and physical conditions resulting from the process of surgical and medical detoxication of the individual as an arrest rather than a cure, much as one would describe the conditions of patients recovered from tuberculosis or any other chronic infectious disease.

The author also claims that conditions in the feeble-minded may be vastly improved by the removal of all foci of infection.

He advocates the making of a diagnostic survey in order to locate any possible focus of infection. He lays great stress upon foci of infection in the teeth, tonsils, sinuses, gastro-intestinal tract, especially the colon and also the genito-urinary tract. All these sources of infection should be thoroughly investigated and eliminated so far as possible. He also advocates in addition the administration of vaccines corresponding to the organism found. In addition to the vaccine treatment he administers serum obtained from the inoculation of horses with specific bacteria until the serum becomes highly potent and capable of destruction. He claims that in cases where the removal of the colon showed no improvement that there was marked improvement under the administration of the serum. He says that only a small proportion of his cases showed infection of the lower intestinal tract while a large percentage presented evidence of gastric infection.

The reviewer agrees with the author that a thorough diagnostic study of every mental case should be made and that all foci of infection should be removed, but, he is unable to agree with the author that even this has any effect whatever in many cases which have come under his treatment. Of course, many of these cases have been going on for some time before a specialist sees them but Cotton cites cases of several years' duration which he claims were cured by his methods. On the other hand we have recoveries and at present 30 per cent are discharged as apparent recoveries from the State hospitals and yet they have not received the thorough detoxication which Cotton advocates. The feeling is generally held by the men especially interested in this work that the author is over-enthusiastic, as many others have been, about the importance of chronic infection and it is felt that these infections often play a minor role in the etiology of mental as well as physical conditions, and that their importance has been unduly over-emphasized.

Diagnostic surveys are being carried to such extremes these days that it often appears that physicians are getting away from well recognized medical procedure and that after all there is need of correlation so that minor conditions may not be over-emphasized. It often happens that after a diagnostic survey the patient is in more of a dilemma than before and all that he has as a recollection and a souvenir is a collection of typewritten reports of the various special examinations which have been made upon him. S. R. LEAHY.

Atlas Der Syphilis

ATLAS DER SYPHILIS. Von Professor Leo v. Zumbusch. Leipzig, F. C. W. Vogel, 1922. 31 colored plates. 4to. Cloth, Mk. 120.

This is one of the best atlases illustrating the lesions of syphilis that has been published in recent years. The pictures are clear cut and beautifully executed on good paper and the atlas is bound in handy volume size.

This work will be found to be of great aid in diagnosing the lesions of syphilis, especially the rarer ones. J. M. W.

Diagnostische Winke Fuer Die Taegliche Praxis.

DIAGNOSTISCHE WINKE FUER DIE TAEGLICHE PRAXIS. Von Dr. E. Graetzer. 2. Auflage. Berlin, S. Karger, 1920. 264 pages. 12mo. Cloth, Mk. 24 plus 300% Valutazuschlag.

Dr. Graetzer's little volume is brimful of valuable data and aid in diagnosis and differential diagnosis. It shows the importance of careful history taking and painstaking physical examination. More and more one realizes that the methods of diagnosis as used by the old-time clinicians cannot be supplanted by modern laboratory investigations. The latter are only to be used in conjunction with a proper clinical study of the case. In this book one is constantly reminded of the variations of onset and course of disease as distinct from the usual text-book descriptions. M. A. RABINOWITZ.

Differential Diagnostik Der Inneren Krankheiten

DIFFERENTIAL-DIAGNOSTIK DER INNEREN KRANKHEITEN. Von Dr. Georg Kuhnemann. 6 u. 7 Auflage. Leipzig, Johann A. Barth, 1921. 242 pages. 8vo. Cloth, Mk. 30.

It is remarkable what a tremendous amount of accurate information has been compressed into this small volume which is quite readable in spite of the terseness of its style. This has been accomplished by grouping together under a single heading all diseases presenting a similar clinical picture and differentiating them in tabulated form. Table IV for instance, deals with the acute infectious diseases which are characterized chiefly by continuous fever. Included in this group are septicopyemia, epidemic cerebro-spinal meningitis, acute miliary tuberculosis, typhoid fever, typhus recurrence and typhus fever. Table XIII deals with the "more or less acute diseases of the lung of pleura in which percussion dullness develops over the lower lobes." This group includes hydrothorax, hydro- and pyo-pneumothorax, pleurisy with effusion, atelectasis, hypostatic congestion.

Table XLI gives the chronic diseases of the spinal cord, accompanied by muscular atrophy and dystrophy. This arrangement means a distinct advantage to the student who tries to memorize the clinical picture of large numbers of diseases and a valuable saving of time for the busy practitioner who tries to solve the diagnostic problems of his daily life. The arrangement reminds the reviewer a little of the diagnostic charts, a sort of short cut to happiness, which are sent out by various drug houses as an advertisement. Their idea is good and practical, only the scheme is not carried out in the thoroughly scientific and authoritative manner of this volume.

In the text following these tables are discussed the physical signs found in health, and the diagnostic points important for differentation are discussed in detail. Rare conditions presenting a similar clinical aspect are mentioned, if they have not been dealt with in the table. These include a full list of the new diseases, recognized only since the World War.

Altogether, this book should be a most helpful guide for the general practitioner as well as for the specialist.

If translated into English, this volume would make a welcome addition to the American physician's book shelf. H. KANDT.

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Industrial Diseases—Their Interest for the General Practitioner

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I OFTEN have been asked how, as a general practitioner, I became interested in the so-called occupational or industrial diseases*, and my object in answering this question is the belief that my experience might be suggestive and helpful to others.

In brief, the interest arose through the fact that in so many diseases inquiry into the details of the patient's occupation may explain the origin of symptoms and frequently at once make clear a doubtful diagnosis and also suggest treatment and prognosis; as illustrated by the following cases:

Some years ago a man entered my wards in Bellevue Hospital presenting a diffuse maculo-papular suppurative eruption. It had the general distribution of variola, appearing on face, trunk and limbs, but there was no fever and the eruption had persisted for weeks. It was non-specific and had puzzled a number of the hospital staff who had had the patient under observation for several days. But taking down the patient's admission card, I read under the heading, "Occupation," the word, "Undertaker." I was not aware that this is reckoned among the hazardous occupations,—at least not for the undertaker!—but it occurred to me to ask the man whether he was also an embalmer. "Why, yes," said he, "that is my job." "Do you use arsenic?" "No; that is prohibited by law through the possibility of confusion in alleged murder poisoning cases." "What do you use?" "Formalin." There was the diagnosis and the whole story. It was a typical formalin rash. There was the explanation of all the symptoms and the suggestion for treatment, which was merely to let the eruption alone and avoid further exposure. It transpired that the man was in the habit of going into a small closet to mix embalming fluid, pouring concentrated formalin from a large can and thus filling the confined space with formalin vapor.

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*Read before the Medical Society of the County of Kings, March 21, 1922.

He further stated that several of his fellow workers had been similarly affected, although they did not seem to recognize the cause of the eruption, and therefore he had not mentioned it.

As a matter of fact, very many industrial workers fail to recognize the relationship between symptoms and common industrial poisons; hence they do not mention details of the materials used by them, and our hospital records are lamentably deficient in accuracy in recording patients' occupations. For example: a man enters a hospital seriously ill with muscular tremor, inanition, anaemia and digestive disturbance. He gives his occupation as that of a "hatter." Now, as far as that word is concerned, he might be a salesman of straw hats, which, of course, is non-hazardous, or he might be occupied in sewing the linings in felt hats in a hat factory, which is equally non-hazardous; but he might be a "pouncer" or "dipper," that is, occupied in dipping or beating out the felt cones which are immersed in a solution of nitrate of mercury, with which he had long been bespattered, until, through absorption, he acquired the pitiable condition of chronic mercurial poisoning, which may lead to premature senility with dementia. Now most physicians are not familiar with the details of felt hat manufacture, and one-half hours walk through such a factory is a revelation as to the possibilities of occupation disease hazards where the factory is maintained, as it regrettably often is, under poor hygenic conditions. We put on our felt hats and go about our business without giving a thought to the fact that in their making someone may have lost his teeth, ruined his digestion and acquired a muscular tremor, with mental depression, which may be very incapacitating. I have seen a "pouncer" whad had such tremor that he could not hold the felt hat cone in his hands without tearing it to pieces, and had to get his fellow workmen to aid him. Yet he was still "on the job" and no one had done anything about it!

Let me give another illustration of the value to the general practitioner of some knowledge of industrial diseases. A woman of fifty-five, while traveling in England, discovered a dermatitis which appeared behind the ears, over the neck and extended over the shoulders. She consulted a well known physician in England, who told her she had gout, and proceeded to treat her by the time-honored methods against that disease, telling her to give up animal food, take more exercise, use evacuants, etc. Periodically she became worse, however, and the eruption extended, blebs occasionally forming. So great was the itching that she would arise and walk the floor at night, scratching her neck and shoulders. She then consulted another well-known physician, who said the gout theory was all wrong; that, being a society woman and occupied also with many philanthropic interests, she was overworked, and needed rest and building up. He stopped the exercise and meat diet ordered by his colleague, and recommended diametrically opposite treatment. Meanwhile, she consulted several dermatologists, who treated her by the laying on of ointments, etc. The eruption was intermittent, with periodic partial improvement ,and exacerbations of great intensity recurring every few weeks. It spread to the sides of the face; the woman could not wear evening dress, and gave up all social functions, feeling humiliated and depressed.

After two years she came back to this country and went to a well-known spa, where she was given some twenty-nine baths and was much reduced in strength, the exfoliative dermatitis by this time extending over a considerable portion of the body. She was told, however, that the baths were "bringing out the trouble" and that she would be better later on, instead of which serious symptoms began to appear. She was picked up from the floor by her husband, having fallen in a faint. A doctor was summoned, who said she had a weak heart and gave her hypodermatic stimulation. She began to have diplopea and could not read. She became greatly depressed, thinking that, having previously been in the prime of health and activity, she was prematurely and hopelessly breaking down. Finally, she had attacks of uncontrollable vomiting irrespective of the ingestion of food or any apparent cause. All this time the eruption continued, having persisted more than two years, during which she saw many physicians and received many diagnoses. Finally I was called to see her. I had known her for many years, and it struck me that her hair was of a much more brilliant Titian red than formerly, and when I looked at the rash it at once suggested some photographs that Dr. John A. Fordyce had given me of an eruption resembling an exaggerated exfoliative dermatitis on the hands of a barber who had been in the habit for a long time, of rubbing in analine hair dye. I then recalled that the symptoms of chronic analine poisoning are an exfoliative dermatitis, cardiac weakness, disturbances of vision and obstinate unprovoked attacks of vomiting. However, the diagnosis in this case lacked absolute proof. I accused the patient of using hair dye, which I said must contain analine, although I did not know which analine. After the usual altercation customary upon such accusation, a bottle of hair dye, or rather two bottles, the contents of which were to be mixed, were produced. I took them to an expert chemist and gave him the patient's history. He promptly discovered dimethylphenylendiamine. Now this is an analine so poisonous that its manufacture had resulted in the death of several employees in Germany, and had been prohibited there. When I told the patient the cause of all her trouble, she asked what she should do to be saved, and I said, "Nothing. Let your hair alone; the eruption will disappear of its own accord ,and you will be well in two or three weeks." I told her to put nothing at all upon her hair and particularly not to wash it, because water spreads the poison ana extends the eruption, but when the chemist discovered the analine in her hair dye, he immediately telephoned the woman not to use any more of it or she might kill herself. This so alarmed her that she jumped into a hot bath and proceeded to scrub the poison out of her head, with the result that she promptly had a generalized dermatitis and looked like a patient with scarlatina!

There was another incident in connection with this case which is worth recording. I warned the patient that having irritated her skin severely for more than two years, it would be hypersensitive, and slight irritation might produce slight recurrence of the dermatitis. Some weeks later she sent for me greatly discouraged because this had occured. Happening to glance at the library table I noticed a so-called "smoke consumer," used to deodorize a room of tobacco smoke, the principle of which is that a small platinum cone is placed over a simple alcohol lamp. The lamp is lighted, the cone is heated red hot and the partially consumed alcohol, which passes through it, is split up with the production of formalin. Formalin vapor is capable of producing dermatitis. I found that the patient had sat all the previous evening by the table where this lamp was generating formalin. She wore a décolleté dress and the fumes irritated the skin of the neck. After this final episode she made a prompt recovery and has been in robust health for several years, and the Titian red has been supplanted by a grandmotherly gray, which is much more becoming to her status in every sense of the word!

I have recited this case in detail because I know of no more striking illustration of the value of a little interest in the industrial diseases, and industrial diseases poisons, than it happens to afford. A few years before I should have fallen into similar error with the many general practitioners and specialists who had been called upon to treat the patient. Recital of the history of this case to the late Dr. Mauple, the well-known oculist, led him to discover the cause of an obscure persistent conjunctivitis in a woman who had been using the same analine hair dye. A number of similar experiences have recently been published in medical literature.

I might recite many more instances where interest in industrial diseases has led to a very simple and obvious explanation of the cause of otherwise obscure symptoms. There is a very large variety of respiratory irritants developed in industrial processes giving rise to naso-pharyngeal and chronic bronchial catarrh, asthma, and the so-called fibroid phthisis.

I know of a young woman who acquired dysmenorrhoea, insomnia, and a highly neurotic condition. It was found that she stood all day at her factory work upon a floor that was constantly jarred by the vibrations of a heavy stamping machine. The machine was jacked up, the vibrations were stopped and the patient's symptoms disappeared. Oftentimes treating the environmental conditions gives far better results with industrial diseases than treating the patient's symptoms and leaving the external conditions unimproved.

Dr. Lanza, while connected with the United States Public Health Service, investigated a number of locomotive engineers who were complaining of sciatica. His attention was attracted to the fact that in these cases the right side alone was affected. The engineers were in the habit of sitting with the right hip balanced upon a narrow bench as they looked out of the cab window. The incessant heavy vibrations of the locomotive jarred the right leg and gave rise to the painful symptoms. Sawing off the forward end of the benches, so that the engineers could sit squarely and comfortably, cured the sciatica and prevented its recurrence.

It has long been my practice, when traveling and opportunity offered, to take an hour or two occasionally to visit some typical manufactory, such as a paper mill, a lime kiln, brass factory, etc. This not only extends one's general information, but often suggests possibilities of disease hazards, and in many cases it must be admitted that in some industries these hazards may be theoretical rather than actual.

The toleration acquired by many workers to irritations which instantly affect the casual visitor, is very curious. The so-called zinc chills, common among workers in zinc foundries, are typical and well known, but toleration for them is often acquired in remarkable degree. In a zinc foundry which I strolled into one day in Bridgeport, I learned that the foundrymen had gone for a long period, several years in many cases, without such chills, but a couple of painters who came to work for a single day upon the skylight over the foundry, went home with violent zinc chills. One meets with the same phenomenon of tolerance among those who inhale irritant dusts. Coal miners, for instance, are not particularly subject to pulmonary tuberculosis, as formerly believed, and cement grinders and worker in lime kilns, and similar laborers, often astonish one in their freedom from the bronchial irritation which one would expect them to have. The men who clean out the coke from the stills in oil refineries are subjected to extraordinarily high temperatures and arduous work. They have to protect the skin from burning by wearing many layers of clothing. They come out of the kilns after a few minutes of work with increased pulse rate, slight elevation of body temperature, and drenching perspiration, yet they are singularly free from the respiratory and renal diseases which theoretically should affect them, and many such workmen continue in remarkably good health for years.

It is very necessary, therefore, in any study of the industrial diseases to maintain a judicial mind and not draw erroneous conclusions. For example, at a town upon the Hudson River there is a dyestuff manufacturing plant where recently one of the workmen became acutely and gravely ill with nervous symptoms and stupor. The State health authorities concluded that he had aniline poisoning and threatened to close the plant, which was known to be very unhygienic. Some of the local physicians, however, thought the man had sleeping sickness, so I was asked where the man could be sent to have a careful analysis of his condition made in order, if possible, to detect aniline in his system. I replied that at the Reconstruction Hospital for treatment of industrial accidents it was planned to study industrial diseases so soon as our additional building now under construction affords space, but meanwhile I knew of no institution in the State where special intensive studies are made by a competent staff of all the varied effects of industrial poisons, and, in fact, with a few notable exceptions, such as the Harvard Medical School, even elementary instruction in this highly important branch of medical science is not included in the curriculum, so that the so-called "industrial physicians" have to train themselves as best they may.

The manufacturing arts are constantly developing new processes and making use of new chemicals or new chemical combinations the toxic effects of which upon the human system are most imperfectly understood. Such, for example, are the dyestuffs, many of which are for the first time since the war being produced in quantity in this country; Mexican crude petroleum which already has caused a number of deaths among those inhaling its concentrated fumes; some of the products used in steel manufacture; gasoline vapor and products of incomplete combustion of materials associated with its use, as in the poisoning of chauffeurs who run their engines in confined ill-ventilated garages while working over them in cold weather; and the many chemicals, such as acids, alkalies, oils, coal tar products and solvents, which cause painful and incapacitating skin eruptions among those who handle them. Then there are the effects of over-use of the X-ray and radium, which are just beginning fully to be understood, and the effects of modifications of environmental conditions, such as: sudden extreme changes in air pressure, which affect divers, caisson workers and aviators; sudden extremes in air temperature, such as affect foundrymen, glass-blowers and cold storage men; the over-stimulation by excessive noise, as in the deafness of riveters and boiler-makers; the over-stimulation by light, as met with among the girls who test electric light bulbs, workers in electric arc welding, etc.

Still another topic which is much in need of careful medical study and analysis is found in the effects of repeated and long-continued jarring and vibrations, as illustrated by those working with heavy machinery or using air chisels and hammers, etc.

I shall not at present go further into the detail of such matters, but I would emphasize the fact that so very many industries and occupations present the possibility of disturbance of bodily functions, if not of causing actual disease among working men and women. The essential thing is to give the right emphasis to the etiological factors involved in a given case; that is, neither to overlook the possibility of an occupational factor, nor yet to exaggerate it, for as with many medicines, over-use is harmful, so many industrial occupations become harmful only through excessive or prolonged exposure and their effects, again like those of medicines, are very markedly influenced by individual idiosyncracy and acquired tolerance. For example, the same degree of exposure to white lead may give one painter serious plumbism in six months, and another may develop no incapacitating symptoms for twenty years. I have personally known many illustrations of that sort.

There is another group of cases which are of importance for the general practitioner of medicine, namely: those in which trauma is followed by disease. I shall not refer in detail to the traumatic neuroses, for that is too broad a subject for present discussion, but to such cases as are typified by the following history. A house painter was brought to me for diagnosis. While painting the front of a building the horizontal swing ladder dropped at one end, suspending him between the ladder and the building wall. As he hung onto a rope, he twisted and strained and the heavy swinging ladder bumped his left side against the wall. X-rays showed no fracture of the ribs but he had a well-marked pleurisy when I saw him, obviously consequent upon the trauma. His pain and dyspnoea, however, seemed far beyond the distress from ordinary pleurisy, so I sent him into the Reconstruction Hospital which was founded expressly to study and treat industrial accident cases. There he remained for several weeks, developing a septic type of temperature, sweats, great prostration, emaciation, anemia and a loud pericardial friction sound. It was thought that he had a pulmonary abscess in addition to the original pleurisy and pericaditis. His pain and dyspnoea increased, and he finally died. Much to our surprise the autopsy revealed several small foci of carcinoma in the lung with involvement of several of the left ribs. Here is a question for a compensation commission to decide upon the practitioner's testimony: did the accident in any manner accelerate the man's death? He had been quite well when at work. Did the accident in causing a traumatic pleurisy also so injure the ribs as to localize carcinoma in them? Would a carcinoma of the lung by extending to the ribs and increasing the patient's distress greatly accelerate his death? Was his widow entitled to a death compensation as well as full sickness benefits? In other words, did the accident cause the patient's death, or was it contributory, or merely conincidental?

In New York State physicians are asked to report a limited group of occupational or industrial diseases to enable their more comprehensive study by the State authorities. This list, originally comprised six industrial diseases, but recently has been considerably extended. To facilitate such reporting I was asked by the State Labor Bureau to make a tabulated list of the industrial poisons, the diseases caused by them and their principal symptoms, and the list was published in pamphlet form for distribution. A similar list, extended and brought up to date recently has been issued by the Metropolitan Life Insurance Company, and is a useful guide for identifying the industrial diseases.

With some of these diseases every practitioner comes in contact from time to time, and in conclusion I would emphasize in particular the service which an interest in the subject often may afford to diagnosis.

The Surgeon in Industry

Frederic J. Cotton, M. D.
Boston, Mass.

THE matter of the surgeon in his relation to industry is not at all the problem of the industrial surgeon as I view it.

In fact, I am not sure that there is any longer any problem of the industrial surgeon except perhaps the problem as to how he can be surgeon and also internist, toxicologist, welfare expert, and attend to a few other things that are thrown at him.

The fact is, however, that in the big plants all over the country we are seeing recognition of medical needs and installation of proper facilities in the hands of men on the whole very competent and efficient.

In a good many instances as hinted they have to do a good many things of divers sorts, particularly in industrial units too small to carry a diversified personnel on the overhead, but they do them mostly very well, and year by year these men grow more experienced, and come to be known by their results, backed up according to their results, and therefore better and better equipped.

Best of all, with *growing* recognition of conditions better trained men and a better type of men are no longer exceptional, and we are beginning to note men of national reputation, in strictly surgical circles, frankly listing themselves as industrial surgeons,—better yet, industrial surgeons as such, winning the best of surgical status.

Along this line nothing is in store, or needed, but development. That is not my theme.

Rather I would consider the question of John Smith injured on a little job with the small contractor covered by an insurance carrier, not very large or perhaps not greatly involved in John Smith's community.

How is John Smith going to get cared for?

How is he going to get the best, most expert care that is going to minimize the results of his hurt?

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*Read before the Medical Society of the County of Kings, March 21, 1922.

He wants it. His doctor wants to give it or see to it that it is given. The carrier wants it and as a rule is ready to pay for it—if he gets it.

The trouble has been with our machinery and this is still the question—mainly:

We are not yet in such shape as to assure to John Smith, injured, the very best care and the best surgical advice toward his recovery, or the best special services if he lags behind at a half-year after injury.

Perhaps we may never be able to promise this to John Smith. Today we can not even give such assurance to, let us say, Henry Ford, a much less important and less numerous person than John Smith.

The fact is that our surgical development for many years has neglected the traumatic work and our hospitals are not organized to handle it or to hold men to their responsibilities in regard to it, or to train up the younger men.

The surgery of pathological conditions has monopolized the professional interest and the hospital caters to the handling of abdominal and pelvic lesions primarily, with the young men feverishly getting ready to do "major" operating.

A fractured leg is a troublesome bit of detail and stands a pretty poor chance of proper care.

The smaller hospitals, of which scores are being opened, are, at least in my part of the country, dedicated to abdominal surgery and usually entirely unready for the care of accidents—in too many instances unequipped with necessary apparatus, even if there were anyone trained to use it or interested in trying.

The schools too have had their responsibility. The student graduates as a rule without having had any real training in the handling of injuries and of late years does not even have that perspective as to the importance of detail that we used to get from our unregulated knocking around as substitutes or dressers in the hospitals while still in the school.

Now all this is only negatively important. What are we going to do to bring about better things. There is a problem. How is it to be attacked?

The problem divides itself pretty definitely, I think, into eight parts:

1. Immediate care—"first aid," if you like the phrase.
2. Final diagnosis and mapping out of treatment.
3. Detail treatment in hospital.
4. Expert review, at intervals.
5. "Out-patient" treatment.
6. P. T. treatment.
7. Prevocational treatment.
8. Late "reconstruction" work.

Let us take them up!

1. First aid treatment. Not satisfactorily done as a private doctor's job in most cases, I am afraid. Either we need a company first aid station with a doctor, not a nurse, to pass on the case and refer to a hospital as needed, or else an arrangement with a hospital.

Theoretically the hospital accident room should be the first place but this does not seem to work out very well with us at any hospital owing to the youth and temporary tenure of those in charge, and I believe that either a company place or a privately run place well-staffed, accessible to work of all companies, is the only way to avoid the heavy loss particularly from sepsis that is being incurred by use of general hospitals and of private practitioners not especially equipped.

Proper coöperation of all "carriers" in this would make such a scheme practicable, and it would pay many fold.

One case of sepsis avoided would pay for the care of twenty accidents by a really good accident team.

This scheme is in operation in various places, unfortunately in most instances (company or private) on a commercial basis, with staff not often of high grade and work ditto. That is nothing against the plan, perhaps, if a proper head is selected.

2. Final diagnosis and prescription.

Here we have been weak also.

For example I see in my hospital service every year a lot of ankle fractures. They are reduced by residents or internes.

One in four at least, I find unpromising, considered in terms of end-results.

One in four, let us say, I re-reduce myself, or have handled exactly according to my prescription.

This is not because I am gifted but because I know from long travail what counts, and what does not.

We must therefore have some arrangement by which each and every case (except the trivial ones, and I am not sure that there are any trivial accidents as I review the chapter of mischances)—we must have each case passed on by an experienced surgeon.

That means that we must have

a) A "carrier's" surgeon.
b) A hospital surgeon who can and will do this work carefully.
c) A special hospital.

For the present the way which works out is the second—the hospital surgeon who is skilled on these lines—compensated for doing in detail some of the work usually left (under ordinary hospital management) to his subordinates.

In the end this means the recognition of compensation services or compensation wards in the public hospitals, and this is the form of development now taking place in many hospitals in many places.

Theoretically, every hospital patient should have this grade of care. In fact so long as our hospitals are so largely places for training, this does not happen.

If the care of those under compensation is brought up to standard by proper compensation for really trained and expert service, the standard of general hospital care must follow on the up grade.

3. Detailed after-care in hospital presupposes the same high grade of interest and experienced skill, and the same necessary compensation.

At present the compensation service or ward is the only way to get it.

4. Expert review. Nothing more important. Nothing today costs more than the almost universal lack of it.

Most of the industrial work I see today would never come to me if every carrier reviewed cases early and often.

Prevention is so much easier than reconstruction!

The compensation ward does not quite cover the review problem.

Every carrier should have a *real* medical head who should see every case or get a *real* report from the surgeon in charge of it at say fortnight intervals.

5. Out-patient treatment.

Here we come to the parting of the ways. The care of an industrial case after discharge from the hospital is not a job for the hospital "O. P. D."

No big general hospital that I know can carry this job properly—they are swamped by numbers—the little ones are unequipped.

Here and there this may work.

In general, however, this after-care seems to work out best in private clinics or in small company clinics.

In both, however, there is a tendency to routine treatment.

6. P. T. treatment is the same question practically. We must have it, but it must not become routine as it is so apt to do and for this reason it must be handled in small units even if one must split a clinic.

Frequent review not by the masseuse but by a surgeon, preferably by the man who laid down diagnosis and first treatment, is essential.

I feel strongly on this because I see so many cases that have had in company or private clinics six months or a year or more of "B. & M." —baking and massage—for conditions such as for instance bony obstruction to joint motion—cases practically hopeless under routine treatment, with no review save by the masseuse or the physio-therapy head, who of necessity is not a surgeon.

The surgeon is the man to do the reviewing—and it pays to have him do it early and late and rather often.

7. Pre-vocational treatment I have called it—the treatment scarcely surgical or even medical—that lies between a surgical discharge and the return to the job.

This is often a period of months and often half it need not be, though we have no way as yet of handling the problem.

I have lately taken this matter up tentatively, with the occupational therapy people. They are the ones to do it, under supervision of course, and they are ready. Mr. Sterling in New York has a plant that seems particularly promising.

We lack only the organized arrangements—not simple, because this work must be taken up along the line of the English "Curative Shops" of war times. We did little in this line in America in time of war except on paper in some wonderful pamphlets) and the detail is still to be worked out, but this development is coming surely and probably at no distant date. We are learning that retraining for the old job is regularly essential in most serious cases, particularly in the strenuous occupations. None of us could go out tomorow and handle a longshore job, yet we have expected a man with a broken leg just discharged as "cured," soft, flabby, discouraged, and with the habit of idleness half established, to go back tomorrow, and have called him a shirker if he wouldn't.

He doesn't in fact and worse than that he lies around home and gets still softer, still idler, and instead of being hardened up to be fit in six or eight weeks, often enough he doesn't go back at all. It is up to us to see that this is handled differently.

To sum up so far as we have gone, I believe we should regard as the ideal arrangement a first aid care that is private but organized—a hospital care that utilizes present hospitals of full equipment but utilizes them under special arrangements to ensure proper interest by especially equipped men, and privately run clinics in small units under surgical supervision for after-care surgical, medical, physio-therapeutic and pre-vocational.

I believe every carrier should provide for very frequent review of *all* cases, under compensation by men of real qualifications and should have such a reviewing staff independent of those carrying out treatment though of course working with them.

There is need of this particularly in covering outlying cases in smaller towns and cases under private care.

For, while the plan sketched may be ideal or near it, it certainly is not going to cover the entire field nor should it.

We have had a pretty fair chance in Massachusetts to test out company care versus private care and a good many of us still believe in the patient's right of choice of his physician—we still have it there and are likely to have.

It has obvious disadvantages, particularly as to sepsis but it is a valuable check and would be ill to discard as yet.

If the carrier is showing proper interest, proper organization, proper results, he need not fear competition of the private doctor, and may well coöperate with him, furnishing consultants, taking over bad cases or those needing special big hospital facilities.

Now there is another item, not a small one, that chances to be my own principal interest—the item of reconstruction as it has come to be called—the salvage of cases hopeless under routine treatment.

There are an astonishing lot of such cases of the greatest variety, and the field is proving very productive of results.

For example, I am getting ready for the American Surgical Association a series of cases of operations for disability due to Collés fractures and carpal injuries, within eighteen months past. There are about two dozen of them: all save one were old injuries, nearly all of them of industrial origin. They represent eight different types of operation. All were crippled, the one poor result is able to do part work, the rest have been successes.

There are several elbows, that were locked before operation, now mobile, and only one of them needed a formal anthroplasty.

There are four cases of pelvis fracture, three with crippling myositis spurs with three recoveries of full working power, one fair result.

There are several knee joint operations of various types, osteotomies of knee and ankle, some ten oscalcis operations—several non-unions, a couple of late nerve sutures, a few tendon operations, various plastics including one plastic reconstruction of most of a face.

Most of the operations, however, are unclassifiable and success in this type of work depends on careful study of the individual case and the specific reasons *in that case* for the disability.

To score successes one must have a rather considerable experience to know what can be done and what just looks reasonable but isn't going to work.

Done on this basis failures are few, and the work immensely worth while for everybody.

Obviously only a few men in large medical centers are qualified by technique, temperament, knowledge and interest for this particular work.

Most of it is not for the big hospital nor for the carriers hospitals.

It must be consultants' work, and for the present it is likely to be done in private.

Today the carriers rarely have machinery to get hold of these cases early enough for the best results.

In the list just noted, I think a full half were of over a year duration, several of from two to five years. The habit of idleness added to disuse of a limb is a pretty heavy handicap to work against.

Therefore we must add to our scheme for review a machinery by which cases becoming chronic (and take it as assured that a case of six months standing is chronic enough) shall have a special review by the best available man, not the best in the factory town, but the best anywhere, with a view to specialized handling.

One chronic case salvaged pays railroad fares and examination fees for many that may prove to offer no chance of salvage.

The carriers today are willing enough to pay for this sort of work, but few of them realize its scope or know how to go about to get it, or review their cases often enough or expertly enough to know how many wrecks they are carrying who might be salvaged.

Some day routine work may be good enough to leave no need for reconstruction, but not yet.

Rehabilitation of the Physically Handicapped

Riley M. Little

Director N. Y. State Bureau of Rehabilitation

A NATIONAL program for the rehabilitation of the physically handicapped has been launched by the Federal Government and thirty-four States. The lead was taken by the Congress passing an industrial rehabilitation act which is of the nature of an appropriation to the various States, to encourage them to undertake the restoration of physically handicapped persons to gainful occupations. The Federal Government pays half the expenses.

The New York State act became effective May 13, 1920, and a bureau has been established in the State Department of Education. The work is confined entirely to those who have been injured in civil life and does not have to do with the disabled soldiers, sailors and marines. The effort is in behalf of all physically handicapped persons resident of the State, over fourteen years of age, except the blind who are under the care of the State Commission for the Blind and persons in correctional or penal institutions, and the epileptic and feebleminded.

This national program for rehabilitation has been launched because there are so many physically handicapped persons in the country, in large part the product of our industrial development and the rapid, hazardous life which we are living. There are perhaps sixty thousand physically handicapped persons in the State of New York, thirty thousand of whom are earning their living, fifteen thousand of whom are unhelpable, fifteen to twenty thousand of them possible subjects for rehabilitation.

From the industrial point of view, rehabilitation is the third phase of a conservation program for workers. The first phase is health, safety and sanitation, or the effort to make work-places safe, sanitary and attractive for those who work in them and for those who own and manage them. Factory laws covering safety and sanitation now obtain throughout the country and the States insist upon factory inspection and regulation, that the life, limb and health of workers may be safeguarded. In addition to the legal regulations safeguarding the welfare of workers, there has developed a national safety movement led by The National Safety Council, a coöperative organization of most of the large industries of the country which have discovered by experience that safety and health are prerequisites for good management. Safety and health measures are coming to be an integral part of industrial operations upon economic as well as humanitarian grounds.

The second phase of the conservation program for workers is money compensation and medical, surgical and hospital service for injured workers during the period of disability. The Federal Government and forty-four States have compensation laws covering this second phase of the program. When first advocated there was great opposition to the compensation principle and its corrolaries, but fifteen years of experience in American industries has clearly demonstrated that compensation laws rest upon sound economic and social principles which benefit the employers as well as the workers, and these laws now receive almost unanimous approval from the general public.

The third phase of the program is rehabilitation for those who are injured and cannot return to their former, or a new occupation, without some special training or assistance. The law definies rehabilitation as the rendering of a physically handicapped person fit to engage in a remunerative occupation. The first step in rehabilitation is rendering an injured person physically and mentally fit for retraining. From the medical point of view, rehabilitation is all around convalescence, starting at the time of an injury, proceeding synthetically through the hospital and convalescence period, embracing medical and surgical treatment, perhaps prevocational therapy, sometimes occupational therapy, and retraining by a special course of instruction for a job and placement in the job. Economically rehabilitation means not only rendering the physically handicapped person fit to enter a remunerative occupation but also fitting him into a position as good as he occupied before his injury.

In the full meaning of the term, rehabilitation includes physical reconstruction and the training or the retraining as may be needed, and the reassignment of the physically handicapped person to a remunerative position which makes his economic and social status as good as it was before he was injured. Practically, the rehabilitation effort may not always accomplish this but sometimes it will result in accomplishing even more, because some rehabilitated persons make a decided success in the economic field.

Rehabilitation, therefore, helps to complete an economic and social program in behalf of industrial workers. Without this third phase the program would be incomplete because no matter how great the emphasis placed upon safety and sanitation, nor how prompt and liberal the payments of compensation may be, nor how skillful and adequate the medical and surgical benefits may be, there will still be a large number of injured workers who cannot return to gainful occupations unless they are specially prepared to do so. Obviously, safety, health and sanitation should receive the first and increasing emphasis, but even in the industries in which industrial safety, sanitation and medical service have made the greatest progress, there are still a large number of workers being seriously injured every year. It is not sufficient that an injured person should receive a part of his wages and have his medical and surgical bills paid during his injury, if he be left in a maimed condition, reduced in his economic ability and probably cast adrift when his compensation money has been expended and he be left to shift for himself.

Rehabilitation should be considered from the compensation point of view and not from the point of view of charity. In some of its phases, rehabilitation may be akin to charitable work but the effort rests upon different principles. Retraining physically handicapped workers and assisting them to return to gainful occupations is rendering them the same social and economic justice that compensation and medical and surgical benefits constitute for them at the time of their injury.

An efficient workman lost his right arm in a well-equipped, safe and sanitary shop. He received compensation and in addition thereto, medical and surgical benefits amounting approximately to $5,000, but no attempt was made to retrain the worker and place him again in a gainful occupation. He had a good mind, was just forty years of age, had accumulated skill, and if some agency had made a special study of his aptitudes and inclinations and had given him a course of training for the use of his left arm and his mind, he might have been returned to a suitable occupation which would have enabled him to earn a good wage, support his family and preserve his self-respect. This, however, was not done and his morale declined, in time his compensation benefits were expended and when he was placed in a minor position in the industry where he received his injury he had become so embittered by his experience that he resorted to theft to maintain the standard of life which his family had always occupied.

On the other hand, a skilled worker in a well-equipped factory lost a hand on a punch press. He was returned to the same shop after some instruction and made an inspector at a slightly increased wage, thus preserving his independence and the status of his family, and in no respect lowering the efficiency of the plant. For thirty years he had been in the shop, was a skilled, intelligent and dependable man, and made a first-class inspector.

From the point of view of the industry, the compensation benefits and medical and surgical services rendered to the first man were all lost, whereas the second man who by retraining continued in the industry in a better position, rendered a more valuable service than he did before his injury, and the industry therefore did not lose the money which was spent in the form of compensation and for medical and surgical service. A loss was turned into a gain, both for the man himself, the industry and society. For a large number of workers this is a possible result.

To receive the best results in this rehabilitation effort, it is necessary that the bureau should work in close coöperation with medical and surgical men and agencies and when possible the State workers should make contact with physically disabled people before they leave the hospitals in order that during the period of convalescence there may be started in their minds a train of thought which will give them a hopeful outlook upon life. After the morale of injured persons has declined, it becomes doubly difficult to stimulate in them a real desire for vocational training that will help them secure remunerative occupations. The bureau would appreciate therefore the assistance of the Medical Society of the County of Kings in making early contacts with cases in need of and suitable for rehabilitation.

A final word: As a group of laymen, it is already impressed upon our minds by contact with approximately two thousand physically handicapped persons in the State that there needs to be great improvement in the medical and surgical service rendered to the industrial workers. Perhaps we are not competent to pass upon the skill and appropriateness with which operations have been performed, but judging by the results there are all too many operations performed without taking into consideration the functional use of parts of the body after they are healed. It is to be hoped that the higher type of men of the medical and surgical profession will use their influence to make widely known in the medical profession the necessity of considering functional use at every operation and also the development of the best means of restoring functional use when it has been lost or largely reduced.

The Relation of Proteins to the Etiology of Hay Fever and Asthma—Report of a Case

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THE effect of introducing foreign protein into the human body has for a number of years been a subject of ever-increasing interest. The employment of diphtheria antitoxin, which first came into general use toward the close of the nineteenth century, first afforded an opportunity for the observation of these effects, and since then, there have been many contributions to the literature on this subject, and a constantly widening application of the knowledge gained by experimentation and clinical observation along these lines.

Idiosyncrasies to food, drugs or proteins in the form of dust and pollen have been recognized for a long period, but until recently the whole subject was looked upon as one of the interesting anomalies of medical practice, and no effort was made to explain it upon a scientific basis.

Proteins, carbohydrates, fats and certain organic salts are the essential constituents of every living cell. The chemical term *protein* has a similar significance to the biological term of protoplasm, for both names have reference to the primary or fundamental nature of the substances. Protein differs from the other essential organic constituents of living cells in containing, not only carbon, hydrogen and oxygen (of which they are all composed), but it has, in addition, the element *nitrogen.*[1]

The nitrogen of protein is always held in groupings of ammonia, usually amino acid. It is only since 1901 that their actual constitution has come to be understood at all, and the knowledge we now have resulted from the work of Emil Fischer and his pupils. Their researches revealed that the protein molecule is built up of a number of amino acids, of which there are seventeen, belonging to different series. These amino acids are the "bricks" or units in the composition of the protein molecule. The ultimate facts of the nature of protein are still to be revealed, the point of most vital interest being protein metabolism the most complete and obscure problem in physiology. Protein metabolism is the relation of the change of matter to the change of energy, an electro-chemical problem, the solution of which may bring us nearer the answer to the greatest question of all, "What is life?"[2]

Proteins are the characteristic constituents of the fluids and tissues of the animal body. They are formed in plants, the animal organism receiving them in food.

In pathology, interest centers around the poisonous proteins of bacteria, pollens, animals and foods—the source of intoxication in infectious and other diseases. The etiology of an increasing number of diseases is constantly being referred to poisonous protein metabolism.

Among these diseases are asthma, hay fever, eczema[3], urticaria and angio-neurotic edema. Some investigators have even included epilepsy[4], rheumatism, neuritis and, in the instance given by one man in research, cases of the vomiting of pregnancy were referred to protein sensitization.

The tubercular individual elaborates in his body cells a ferment which splits up tuberculin and sets free the protein poison. The reaction is due to the local effect of the liberated toxin which poisons the epithelial cells. Vaughan[3] claims that the von Pirquet test in tuberculosis is a protein reaction.

Actual digestion of protein does not begin until the food material has reached the stomach where it is subjected to the gastric juice; the main activity in protein digestion, however, takes place in the small intestine, especially at the upper end. Absorption begins immediately after the food has passed the pylorus.

Hay fever did not even emerge as a distinct diseases until 1819, when Bostock[4] wrote the classic account reporting the case of a patient who happened to be himself. Bostock ascribed the irritation to dust particles and also thought that the heat of the season was a contributing cause. He prescribed for himself as follows: "Topical bleeding, purging, blisters, spare diet, bark and various other tonics, steel, opium, alterative courses of mercury, cold bathing, digitalis and a number of topical applications to the eyes have been fully tried; but it is doubtful whether any distinct or permanent benefit has been derived from any of them."

In 1873 Blackley[5] definitely discovered the etiologic relationship of pollens to hay fever. The first investigations were made in England where ragweed and wormwood pollens, the chief causes of hay fever in the United States, are not found. In 1906, Scheppergrell, after a series of botanical and clinical surveys of the Eastern and Southern States, established the synchronism of fall hay fever and the pollinating season of the common and giant ragweeds.

"Bronchial asthma," writes Gottlieb[7], "has always an underlying anaphylaxis. The cause of the anaphylaxis is not the same in every case, and may even be multiple. In the majority of cases, there is a superadded infection, the most common being members of the diplostreptococcus group in the bronchial mucous membrane."

Asthma and hay fever are conditions for which we have no specific cure, since the etiology depends upon many different factors. In some individuals an attack of asthma follows contact with a horse, a cat, a dog or even a pet bird.

I think in asthma and hay fever that foods are the underlying cause, by disturbed metabolism. Some investigators believe this disturbance to be due to the escape of imperfectly assimilated food proteins and their split products from the digestive tract. Some of these protein substances seek their exit through the mucosa of the nose and bronchial tubes. While this of itself may not cause any inconvenience, the distressing symptoms of asthma and hay fever appear when the individual inhales such exciting agents as plant pollens, animal hair or dandruff, or such drugs as ipecac, musk or aspirin. The degree of the severity of the attack depends upon the hypersensitiveness of the individual to the local agent. To successfully overcome the disease we have to remove the underlying causative factors and not alter the symptoms only.

I believe that all asthmatics originally started as first sensitive to one or more food porteins, which may not be manifest, or may give some digestive disturbance; then to some pollen protein which may manifest itself by a slight coryza in summer (the "summer cold"). Later, the patient becomes sensitive to the animal epidermal porteins and on coming near the offending animal, or its epidermal emanations he is seized with a typical ashmatic attack.

I should advise, in all asthmas and hay fevers, that the patient be tested for all the foods, pollens, and the emanations of those animals with which he comes in contact. The course to be followed then is the avoidance of the offending agents if possible. If avoidance is *not* possible, then immunize the patient as follows: first, with the offending pollen extract; then with the animal protein extract. If it is simply hay fever immunize with the pollen, and, during the hay fever season, avoid the offending foods.

The types of hay fever and asthma cases vary greatly. We have instances in which asthmatic hay fever occurs; that is, cases in which attacks of asthma occur only during the hay fever season. These individuals may or may not be sensitive to all three protein agencies—food, animals and pollens. We have other cases in which the worst attacks occur at the time the plant is pollinating; during the rest of the year the attacks may be very slight. Still other cases react only to the emanations of the offending animal.

The subject of protein sensitization is one of immense importance and apparently of almost infinite possibilities. The whole subject is still in its infancy and no man knows what future investigation and observation may disclose.

In making the skin tests I find the flexor surface of the forearm the most convenient location, and, furthermore, the delicacy of the skin enables us to get the superficial incisions we desire. In children, I think the lumbar region of the back the better location, as here one has a larger surface and it can be held in position.

A number of incisions, about one-eighth of an inch long, are made, not deep enough to draw blood which would wash away the protein. On the cuts are placed a small amount of proteins selected, and a drop of one-tenth normal sodium hydroxide solution is used to dissolve the protein. This is gently rubbed in to permit rapid absorption.

A positive reaction is indicated by a raised white elevation like an urticarial wheal, with irregular border surrounded by an erythematous blush. The wheal must measure 0.5 cm. in diameter. Always use a control, on which is placed a drop of dilutent, one near the bend of the elbow and one at the wrist.

In taking the clinical history of cases, it is always necessary to have as full a record of occupation and home surroundings, as possible; also when the attacks are mild or severe; the time of year; whether they occur at night or during the day.

It is important to look for pathological conditions in the nose, mouth and throat. In fact, a thorough examination should be made to locate even the most remote cause of focal infection. There are cases reported in which the removal of teeth, diseased tonsils, adenoids, appendix and even gall stones, caused asthmatic conditions to clear up and disappear. An even more remarkable case has been reported. It is that of a woman of twenty-eight who was suffering from multiple uterine fibroids. She was also asthmatic, but this condition was not taken into consideration. She received X-ray treatment for the fibroids. The tumors disappeared and the asthma was simultaneously cleared up.

In conditions where there is reaction to bacterial protein only, it is advisable to look for other pathological conditions also; if they are found, they must be removed if possible. If this is not possible, have a sputum test made and if the predominating organism is the same as the skin test discloses, then have an autogenous vaccine made and treat the patient with graduated doses. This is the better way, as the better results obtained will prove.

CASE REPORT

Boy, nine years of age, referred to me by Dr. Thompson. At the age of four, he contracted the fall type of hay fever, which proved to be ragweed (dwarf) four plus, and goldenrod two plus. The attacks came on about August 15 and lasted until the middle of October.

During the remainder of the year was apparently free from hay fever and in normal condition. The heart, lungs, kidneys, nose and throat were negative.

From the age of seven onward, he was subject to typical asthmatic attacks. I tested him with the spring, summer and fall pollens and found him positive to the ragweed and goldenrod only. Of the food proteins, he was slightly positive to wheat, veal and potato. He was negative to the animal proteins commonly causing asthma and also to bacterial proteins.

It was observed that the attacks always came on in his home, especially after playing with his toys. On examining the toys, there was nothing found to indicate any offending article. I then made an inspection of the house, and in the garret found two tame white rats. He had concealed them because he feared they would be taken away from him. They were disposed of and his asthma disappeared.

It was then observed that when he went to the barn (he lived in the country), he would develop mild attacks of asthma. I retested him with horse dander and also with timothy with negative results. Again I suspected rats. I secured a rat skin, which was sent to a laboratory for a diagnostic protein to be made. I tested the boy and got a four plus reaction. I did not immunize him against this, because he could avoid it. The whole subject of protein sensitization is as yet in its infancy, despite the immense amount of work, which has been done upon it. Its possibilities appear almost infinite and it surely offers a bright ray of hope, illuminating the obscurity in which those who sought to control and conquer a number of diseases, have for so long a time been impotently groping.

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EDITORIAL

Medical Economics

THE committee on medical economics of the New York State Medical Society, of which Dr. Henry Lyle Winter is chairman, presented a report to the House of Delegates at the annual meeting of the society in Albany of more than usual moment. Had not this been printed in full in the *New York Medical Journal,* it might be well to reprint it for general distribution, because of the careful consideration that it gives to the nursing problem, to the question of a campaign for proper medical publicity and for its attitude toward federal interference in medical practice by the regrettable maternity bill. All these problems have been repeatedly discussed in the editorial pages of this Journal and many of the phases of Dr. Winter's report have been considered very fully. In fact, the report embodies some suggestions drawn from this source, but the problems are so admirably expressed and so clearly presented that the report should be widely read and considered. H. G. W.

Drinking Water on Trains

PUBLIC HEALTH REPORTS for June 16, 1922 (vol. 37, No. 24), contains a striking survey of the methods of supplying drinking water on trains operating in interstate traffic, by Arthur E. Gorman, assistant sanitary engineer, U. S. Health Service. Dr. Gorman visited thirteen coach yards in Chicago representing twenty-one different railroads where each day an average of 725 coaches, 550 parlor and sleeping cars, 100 diners and 215 mail and baggage cars are cleaned and the water coolers filled and iced. The report is so concise and so interesting that it should be read in full, but one or two points in it are suitable for comment. He finds that there is a strong inclination to observe careful sanitary measures but that the absence of any standardized method in the handling of ice, of drinking water and of the coolers, because of the sanitary inexperience of the men employed, very often substitutes additional pollution for intelligent cleanliness. For instance, all too often human excrement is found between the tracks in the yards and the ordinary garden hose by which the water from the hydrants is carried to the tanks is dragged through this filth. Again, tanks are taken out, laid upon their side where they are likely to become directly contaminated and inadequately sprayed out with live steam. Ice is improperly cleansed sometimes, is allowed to rest upon dirty platforms and is handled with contaminated hands. Nevertheless, individual drinking cups are insisted upon and the purity of the water at its source is carefully guarded. He reports that all these railroads are spending large sums in their endeavor to live up to sanitary requirements but the instances quoted will doubtless come to mind automatically when you take your next drink in a railroad coach. The men are willing but are all too likely to fall into the class indicated by the following stanza from a poem called "The Deckhands," by an anonymous author:

"There's some is bums from city slums
That ain't so strong on knowledge;
There's some that hails from county jails
An' some that hails from college;
There's' some is mild an' some is wild
An' some is smart and chipper—
The kind that climbs an' gets, sometimes,
To be a mate or skipper.

A lousy lot,
You'll say, an' not
What you'd consider what is what;
Well, yes, we lack
A high shellac
But we're not meant for bric-a-brac."

H. G. W.

Two Worthy Institutions

THE Physicians' Home, Incorporated, and the New York Physicians' Mutual Aid Association, are two institutions that are deserving of the support of the entire profession. Dr. Robert T. Morris, President of the Home, has announced the gift of a farm and its buildings, near Olean, New York, to be known as the David A. Mountain Memorial . Fifteen superannuated physicians can be accomodated in what is planned to be a real home and not a charitable institution. While finances are in a fairly satisfactory state, ready money is needed to expand and improve the buildings and to provide modern comforts and conveniences. Dr. Morris has appealed for a gift of ten dollars from as many members of the profession as possible. He adds that those who are in touch with aged and infirm colleagues who are in *need* of the Home will please consult with the secretary, Dr. Silas F. Hallock, 36 West 65th Street, New York City. Dr. Albert G. Weed, 152 West 57th Street, New York City is treasurer.

One is often moved to wonder why it is necessary to solicit members for the New York Physicians' Mutual Aid Association. This society, which has been in existence for many years, is an assessment association which so far has never failed to place a death benefit of one thousand dollars with the beneficiaries of its deceased members within a few hours after receiving proof of death. Formerly, assessments were levied only when benefits fell due. More recently, the experience of many years has modified this custom so that a semi-annual premium of ten dollars is charged. This amount, together with funds which have been left to the society, has made it possible to pay every obligation and to accumulate a surplus of $104,000. The present need of the society is for the addition of younger men whose interest will serve to keep the organization before the profession. There are at present over 2,300 members which is somewhat smaller than a year ago and is in part due to the dropping of a considerable number of delinquents. Full information as to eligibility can be obtained by addressing the Association at 17 West 43rd Street, New York City. H. G. W.

"Isms" Again

IN the *Atlantic Monthly* for July 1922 there appeared a very thoughtful, restrained and carefully considered paper by Dr. Channing Frothingham, entitled "Osteopathy, Chiropractic and the Profession of Medicine." This contains so much information on the origin and growth of these sects that it would be well if every physician would acquaint himself with what Dr. Frothingham has to say. Every physician is assured in his own mind of the inherent weakness of Osteopathy and Chiropractic, but it is well to be able to systematize one's array of facts and to have them at one's tongue's end in order to be able to argue concisely, trenchantly and without resorting to the bitter invective which one is justified in feeling but which always detracts from the force of any argument. In this connection one cannot help but be irritated to read a brief notice on "Fasting as an Epilepsy Cure" which appeared in the *New York Times* on July 6th. One Conklin is reported to have declared before the American Osteopathic Association at Los Angeles that by fasting for twenty-two days and taking only water, epilepsy may be cured. He reported only two failures out of thirty-seven tests in children and is quoted as looking for 60 per cent cures in adults. Little need be said in the way of comment beyond the fact that a fasting cure seems to be a radical departure from the ordinary methods of Osteopathy, and that the figures do not tally with the experience of those who have employed the method in past years.

H. G. W.

CORRESPONDENCE

St. Albans, Long Island.
April 30th, 1922.

Henry G. Webster, M. D.,
364 Washington Avenue, Brooklyn, N. Y.
Dear Doctor:

I read an article which you wrote in the LONG ISLAND MEDICAL JOURNAL a few months ago and thought the enclosed clipping might interest you, which I cut from the *Hamilton Spectator* on my last trip. I am a traveling man and have a little girl who contracted infantile paralysis in 1916 during the epidemic. We took her to the Brooklyn Dispensary and Dr. W. Truslow advised massage; to the New York Polyclinic, where Prof. W. Thompson said she would never regain any power in her legs and advised us to put on a double brace which would enable her to get about with crutches. Dr. R. Whitman at the Forty-second Street Hospital told us the same, but my wife would not have a brace put on then as her damn-fool friends insisted she should try chiropractic. She first tried a Brooklyn one and after some months a professor and teacher in their so-called college, who promised her she would walk in a year and she took her to his office for sixteen months and was discouraged when he told her she was the only child he had failed to adjust and cure, and disgusted when she heard he had a boy who was very lame from the same trouble!

This experience cost me over $1,200.00. The little girl's legs are both perfectly useless and she cannot move a toe and gets about with a brace! You can see why I am interested and wonder why the doctors cannot send their men to Albany like the Canadians do to their legislature in Toronto! Yours truly,

[Signature.]

CHIROPRACTORS WERE REFUSED

BILL TO INCORPORATE COLLEGE WAS DEFEATED

THEIR HEALING PLAN INCOMPATIBLE WITH MEDICINE

LIVELY TILT BETWEEN DRS. DUVAL AND GODFREY

Toronto, April 12.—If all the champions of chiropractic who crowded into the private bills committee room of the legislature yesterday had been able to vote, the bill to incorporate the Canadian Chiropractic College would have been carried by an imposing majority, for the crowd that attend to cheer for the measure filled the room and blocked the doorway. As the issue was left to the members, however, and apparently not a single member was inclined to support the bill, the question when put only brought a chorus of "No's."

The bill was sponsored by C. F. Swayze, of Niagara Falls, but the Labor member must have introduced it as a matter of courtesy, for he was not on hand to fight for it when the committee started work. The case for the bill was put in by Arthur Roebuck and Dr. Ernest Duval, the former explaining that the bill was simply one to provide for incorporation of the chiropractic college in the ordinary way. The request for incorporation had been submitted to the provincial secretary's department, but the department had not wished to take responsibility, hence the appeal to the house. Dr. Duval then gave the members of the committee his views on chiropractic. The doctor had his subject in hand and was ready for questions from any quarter. He was asked by Charles McCrae, of Sudbury, whether the chiropractors had any objection to the suggestion made by Justice Hodgins in his report, that those studying this method of heading might be willing to take a course in medicine first, and in answering declared that medicine was one method of healing, but that chiropractic was unique. It had nothing in common with any other creed, and a medical education would be rather a detriment to the chiropractor.

DO NOT STUDY ANATOMY

Dr. Duval was as emphatic in declaring that a knowledge of anatomy would be of no value to a chiropractor.

Dr. Forbes Godfrey drew from Dr. Duval the admission that the case of a person bitten by a dog would be one for surgery and not for chiropractic. Proceeding, the West York member declared that so long as the province had universities to train medical men, it should not take the chances with the lives of the people. He had gone through college and spent time and money studying, but did not consider that he knew too much yet.

"If there is anything good in chiropractic I will take it up," he said, "but I haven't seen any good in it yet."

This brought forth a chorus of jeers and hisses from the crowd, and the attorney-general had to threaten to clear the room.

Dr. Godfrey asked Dr. Duval how he would tell the difference between diphtheria and syphilis of the throat. The healer answered by referring to the killing of mosquitoes. People did not worry about whether they killed male or female mosquitoes, although they were said to be mosquitoes that were the special cause of yellow fever. They killed them both. He admitted that the prospectus of his school advertised that the educational requirements were an ability to read and write, and that this was all that was needed.

Finally Dr. Duval maintained that chiropractic was still in its infancy. When it was as old as medicine it would have universities that would put medicine to shame. "You want us to be educated, and when we want this education you refuse it," he said.

"Go to the universities and grow," advised Dr. Godfrey.

Dr. Duval stated to R. R. Hall that the chiropractors had never applied to the university for a chair in chiropractic. Medicine and chiropractic were incompatible and would not work in harness.

The bill was then put to a vote and defeated.

Society Transactions

Transactions of the Brooklyn Surgical Society

Regular meeting of the Brooklyn Surgical Society, held at the Jewish Hospital, Classon Avenue, between St. Mark's Avenue and Prospect Place, Thursday, December 1st, 1291, at 8:30 P. M.

The President, Robert F. Barber, M. D., in the chair.

PROGRAM

1. Statistical Review of One Hundred Consecutive Operations on the Gall-Bladder and Bile Passages. Dr. John Linder.
   Some remarks on Diagnosis and Treatment.
   Discussion by Drs. William Linder, Richard W. Westbrook, Edward H. Fiske, Arthur H. Bogart and John Linder,
2. Statistical Review of Operative Cases for One Year on the Surgical Service of Dr. William Linder. Dr. Meyer Grollman.
3. Megalocolon. Dr. B. E. Wolfort.
4. Remarks on Differential Diagnosis and Treatment of Surgical Conditions of the Abdomen. Dr. William Linder.
5. Report and Presentation of Cases.
   Discussion by Drs. Nathaniel P. Rathbun, Leon Louria, John Linder, Robert F. Barber and William Linder.

ROBERT F. BARBER, M. D., *President*. THOMAS M. BRENNAN, M. D., *Secretary*.

A Statistical Review of a Hundred Consecutive Operations on the Gall Bladder and Biliary Passages—With Remarks on the Diagnosis and Treatment.

JOHN LINDER, M. D., F. A. C. S.
Brooklyn, New York

A REVIEW of the literature appearing in the last decade on the subject of gall bladder disease reveals a uniformity as to the rôle that infections assume in the evolution of the pathological states of the biliary passages with its secondary deposits of cholestearin and various bile pigments in the formation of calculii.

Another phase of the subject that has been dwelt upon is the existence of cholecystitis without the presence of calculii.

If we are to take the work of Rosenau seriously, that the bacterial invasion occurs through the blood stream, and that the bacteria localize themselves in the wall of the gall bladder and there, produce the interstitial inflammatory changes, then we must consider this fact all-important because it shows the spread of infection from the interior of the gall bladder to the peritoneum, thus explaining the adhesions which surround the organ and envelop the neighboring viscera.

The sequence of events in progressive, advancing disease of the gall bladder are, cloudy swelling, mucoid degeneration, then fatty and lipoid changes, coincidentally, there is congestion, oedema and cellular infiltration, desquamation occurs and then ulceration. If the infection is more virulent, the entire mucosa is destroyed. The walls become markedly thickened, small abscesses and finally gangrene make their appearance. And, if this is accompanied by the presence of calculii, as is usual in about 75 per cent of the cases, one has all the factors necessary for perforation ascending cholangitic infection, intrabiliary hepatic suppuration.

The most important factor in gall bladder disease to be considered is infection, and secondarily, the presence of calculii, as influencing bile stasis, depending upon the location and position of the calculii in the biliary passages.

We have ample clinical evidence to show that the presence of calculii in the absence of infection may remain silent during the life of the individual.

DIAGNOSIS

In the diagnosis of gall bladder disease too much emphasis cannot be paid the clinical history for, a great many eminent surgeons have placed the clinical history above the physical signs, the laboratory and the X-ray findings.

The above statement should not be miscontrued as implying that the laboratory and X-ray should be omitted. For the recent, refined methods of infestation such as the determination of the cholestearin content of the blood, the introduction of the Einhorn duodenal bucket and the determination of their bacterial content—all these may throw a great deal of light on an obscure case and especially shall this method of investigation be instituted in all ambulatory cases that parade the offices and dispensaries under the guise of stomach trouble.

In a large series of cases, the most constant train of symptoms aside from the typical radiation of pain in biliary colic are—indigestion, a feeling of epigastric distress, distension or bloated feeling in the epigastrium and belching of gas.

It is in this group that the laboratory and the X-ray aid in differentiating organic disease of the stomach from gall bladder disease. Negative and positive findings are of equal value.

The physical signs most valuable as has been pointed out by Murphy is tenderness over the gall bladder, elicited by perpendicular percussion at the junction of the ninth rib and costal cartilage—Mayo-Robinson point—on deep inspiration. The same may be elicited by hooking the fingers under the free border of the ribs, the patient assuming the sitting posture and being requested to take a deep inspiration.

In the presence of acute gall bladder inflammation with cystic duct block, with its concomitant gall bladder distension, the palpation of the familiar globular tumor with its acute sensitiveness and signs of local peritonitis is quite characteristic.

The occurrence of jaundice is tell-tale evidence in conjunction with a clinical history.

The Sharcot syndrome is familiar to all of us with its accompanying chills, fever and icterus as evidence of common duct stone plus infection.

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis I will only mention the most frequent and common diseases.

Chr. cholecystitis must be differentiated from gastric or duodenal ulcer. Here, the laboratory and X-ray and the careful clinical history, the relation of the pain to food intake, the local point tenderness—all serve to render the diagnosis possible with reasonable certainty.

Chronic cholecystitis from chornic appendicitis—again history is of greatest importance. In your physical examination, the Murphy sign in the upper abdominal disease and the McBurney tenderness in appendiceal disease, the visualization of the appendix by X-ray—24-36 hours after the ingestion of a bismuth meal—is presumptive evidence of disease of this origin.

Chronic cholecystitis and cholelithiasis must be differentiated from right-sided nephrolithiasis. Here the cystoscope, the wax tip, the X-ray catheter and pyelogram with the urinary symptoms and the laboratory findings in the urine will differentiate the two diseases.

The acutely inflamed gall bladder must be differentiated from first, gastric or duodenal perforation, second, acute haemorrhagic pancreatitis; third, acute perforative appendicitis, producing a subphrenic or a subhepatic abscess; fourth, acute haemotogenous infections of the kidney on the right side.

In all of the above mentioned conditions, a careful history and a careful physical examination and a methodical mental review of the diseased conditions will aid in the differential diagnosis.

TREATMENT

Before entering upon the discussion of the treatment of gall bladder disease it would be well to summarize some of the salient facts that have a direct bearing upon the disease under discussion.

First, that the liver is a vital organ and any interference to the outflow of bile with its consequent jaundice and cholaemia, produces the following changes as has been pointed out by Wright, absorption of bile pigments by the blood; this in turn reduces the calcium content and, as a result, increases the coagulation, producing a tendency to capillary haemorrhage. The prolonged continuance of jaundice produces pathological changes in the liver, kidneys and other organs of the body that are in themselves irremedial and, as a further continuance causes death.

Secondly, any interference with the circulation of the liver, either portal vein or hepatic artery spells disaster to the patient.

Thirdly, that the gall bladder has an important function during the life of the individual in health.

Fourthly, that its removal is well tolerated and, as a result a compensatory dilatation occurs in the biliary passages, the result of increased intrabiliary bile pressure. Eventually, this overcomes the sphincteric action of Odin's muscle.

Fifthly, that anomalies of the ducts and blood supply are of sufficient frequent occurrence to give it cognizance when surgically attacking the biliary tracts.

Sixth, that the best method of draining bile from the liver is through the bile ducts and that the value of external drainage of bile has been very much overrated after operations on the biliary passages excepting in cases of obstructive jaundice and definite cholangitis.

Seventh, that the drainage of bile from the gall bladder will not and does not cure cholecystitis. The infection exists in the wall of the gall bladder and its removal is necessary for its cure. Cholesystostomy bears the same relation to cholecystetomy as nephrostomy does to nephrectomy in the presence of a surgical kidney, or the drainage of the peritoneum in an instance of perforative appendicitis.

Eighth, that the most frequent pathological conditions found after cholecystostomy are adhesions, stone in the gall bladder or ducts, cholecystitis, biliary fistulae, chr. pancreatitis or lymphangitis and pyloric obstruction. Most of these sequellae are the result of leaving behind an infected and crippled functionless gall bladder.

Ninth, that the most frequent pathological findings after cholecystetomy are the dilation of the ducts and the formation of adhesions and only those are of clinical significance which produce symptoms by interfering with motility or obstructing the lumen of hollow viscus and theses may be minimized by careful operative technique. Willis has shown experimentally that the greatest factor in producing adhesions is contamination of the peritoneum with infected bile.

Tenth, that the morbidity and mortality bears a direct relation to the stage of the disease and complications existing.

It is the ultimate desire of every surgeon when attacking a surgical disease, to secure—first, the recovery of the patient; second, to eradicate the disease; third, to prevent morbidity; fourth, to relieve all distressing symptoms; fifth, to prevent complications; sixth, to restore patient to economic efficiency.

The above results will depend upon a great many factors such as the age of the patient, the condition of his vital organs, the presence or absence of blood infection and last but not least, the stage of the disease and complications for which we are operating.

This brings us down to the consideration of the disease. In chr. cholecystitis with or without stones, the blue gall bladder or the opaque walled gall bladder or the strawberry gall bladder showing evidence of infection by the enlargement of the cystic duct gland, cholecystectomy is the operation of choice.

It is in this class of cases that the reports from all the large clinics of the country give the best results with a minimum mortality. It is difficult to reconcile oneself to a death occurring in this class and it is, therefore, the greatest argument for all of us to urge early operative intervention.

In chr. cholecystitis, associated with pancreatic lymphangitis or even ac. haemorrhagic pancreatitis, cholecystectomy is the preferable procedure with cystic duct drainage of the common duct when necessary.

In chr. cholecystitis, with stone, where the gall bladder wall is thickened, stiff, contracted, usually adherent to the duodenum, colon or omentum where the gall bladder has totally lost its elasticity, contractility and function it becomes a menace to economy, therefore an "ectomy" is the operation of choice.

ACUTE INFECTIONS

The acute infections of the gall-bladder which comprise about 71 per cent in this series include the congested, thickened and oedematous gall-bladder with its gangrenous patches, abscessed walls, empyema with cystic duct block or perforated gall bladders with the concomittant associated lesions of the adjacent ciscera, colon, duodenum and omentum. The associated lesions are the large and congested liver and the inflammatory thickening and oedema of the pedicle of the gall bladder, and the local peritonitis which is the result of plastic exudate.

It is in this group of cases that surgical judgment comes into play for all will agree that cholecystectomy is the operation of choice.

It is this group of cases that make up the largest number of secondary operations when an "ostomy" is originally performed. The reason for this is quite obvious. A gall bladder so severely damaged is rendered functionless, harboring infection and ofttimes calculii overlooked at the primary procedure and is a constant menace to its host.

On the other hand, one must not criticise the original procedure unless one is absolutely conversant with the pathological conditions and technical difficulties present at the time of operation but it has been the experience of the writer that the greatest number of these cases can be cholescystectomized without trauma and without hazard to the patient.

In a small group, occurring in obese patients with a liver not extending to the free border of the ribs, a liver that cannot be rotated or mobilized a gall bladder that is imbedded in the liver with a pedicle deep in the abdomen where its removal may be attended with a great many hazards to the patient, it is a wiser procedure to do an "ostomy," realizing fully the probabilities of a secondary procedure under more favorable conditions when the acute processes have subsided.

It is quite evident that an extensive or prolonged operative procedure would not be conducive to the best immediate results in the old, the feeble, the cardiovascular, the diabetic, the asthmatic or patients who have been rendered asthenic from prolonged fever or jaundice. In this group of cases one must not only consider the presenting disease but must take into consideration the anesthetic administered, the rapidity of technique, the minimum of intraabdominal trauma for, as Crile has shown, the disturbance of internal respiration may be quite sufficent to reduce a margin of safety to one of disaster.

Reducing this to its simplest terms, the surgeon must take into consideration the patient as a whole and be able to estimate the possible margin of safety, the type and kind of anesthesia best suited for the case and the type of operation that will be conducive to the best results.

I have often wondered what the results would be in this class of patients if they were anaesthetized for one hour or one and one-half hours without any operatve intervention, what would be the death-rate, the morbidity or complications?

Any abdominal operation prolonged beyond one hour is fraught with danger not only because of the prolonged anaesthesia but because of the prolonged exposure of the peritoneum.

Rapidity of operation is to be considered an important factor in any operative procedure.

Rapidity is vastly different from hurry. A hurried operation is intolerable and implies carelessness and neglect.

Rapid operating is the result of perfect knowledge of what one is doing and how to do it.

From a review of the summary of 100 cases it will be seen that, with gall bladder disease, we are twenty years behind the procession as compared with the treatment of the disease of the appendix. Both are distinctly surgical diseases. Both are amenable to surgical treatment with a minimum mortality when surgically attacked before superlative pathology intervenes.

Who would these days sanction procrastination with a case of appendicitis until abscess formation or peritonitis sets in? Yet, with gall bladder disease both the profession and laity have shown a total indifference to the gravity of the disease in not urging immediate surgical intervention as soon as the diagnosis is established. Quoting the late John B. Murphy, "The duty of the physician is not at an end after he makes a diagnosis of acute appendicitis until he sees that patient transported to the operating table."

It is only by this combined coöperation of physician and surgeon with the education of the laity that we can hope for the best and most satisfactory results.

DEATHS

Hospital Number 44—J. H.; male; 65.

Chief complaint—Pain in the upper abdomen, of four days duration.

Family history—Negative.

Previous history—No history of any previous illness; no typhoid; no previous attacks similar to present. Has always been a good eater; had a good appetite. Not constipated.

Present illness—Four days before admission, seized with sharp pain in the right subcostal region which was treated with sedatives and icebags. Pain increased in severity. vomited once. Marked sensitiveness and tenderness in the upper abdomen.

Physical examination—Old man, well-nourished with pasty complexion.

Lungs—Barrel shaped chest. Large diameter with small expansion. Presence of rales.

Heart—No enlargement made out. Sounds distant and muffled.

Abdomen—Mass the size of a muskmelon, tender and movable in the right subcostal region; rigidity over the mass.

Temperature on admission, 102; pulse, 120; respiration, 26.

Blood count, W. B. C., 23,800; polys, 81 per cent.

Blood pressure—S., 100; D., 60.

Operative findings—Large gangrenous perforated gall bladder about the size of an orange with cystic stone block. Omentum and colon protecting perforation. Considerable peritonitis as evidenced by fluid in the peritoneal cavity. Operation—Cholescystectomy. Operative time—30 minutes.

Pathological report—Acute diffuse, gangrenous cholecystitis.

Post-operative course—Condition fair for the first four days and then suddenly experienced severe pain in the right chest with respirations increasing from 30-64 per minute with moderate increase of temperature, very rapid pulse and cyanosis.

Examination—Of the chest at this time revealed a friction rub with showers of rales.

Cause of death—Contributory—age of patient (65), myocarditis, emphysema,, gangrenous, perforated cholecystitis, peritonitis.

Primary—Pulmonary infarction.

Hospital Number 54600—R. S.; female; age 63. Admitted to the hospital in the last stages of cholaemia with a temperature of 102. No history obtainable.

On the first day in the hospital the following treatment was instituted: Horse serum administered; hypodermoclysis given; calcium lactate given. The following day temperature rose to 105 with a severe chill, pulse 140. On account of the critical condition of the patient it was deemed advisable to establish biliary drainage. Operation same day.

Operative findings—Dilated common duct with impacted stone about the size of a peach kernel.

Operative procedure—Choledochstomy with removal of stone. Pus and bile was seen to come from the upper bile ducts. The gall bladder was not visible or palpable, was not sought for.

Operative time—15 minutes.

Laboratory findings—Bile in the urine; faint trace of albumin.

Blood count—W. B. C., 19,600; Polys, 73 per cent.

Blood pressure—S., 160; D., 100.

Cause of death—Contributory—Age (63) cholaemia, suppurative cholangitis, kidney and liver dysfunction.

Primary—Exhaustion from terminal infection of intrahepatic ducts.

Hospital Number 62595—S. S.; age 56; male.

Chief complaint—Jaundice for five days; marked pain in the upper abdomen for six days.

Previous history—Negative except typhoid as a young man; has never had a similar attack.

Present illness—Began six days before admission with acute pain in the upper abdomen, occurring during the night, which continued with increasing severity; the following day the patient noticed his urine the color of beer, his stools clay-colored and his family noticed his deepening jaundice.

Physical examination—Elderly male, markedly jaundiced, appearing acutely ill.

Heart—Percusses, one-half inch beyond the left sternum; apex displaced outside the nipple line.

Lungs—Negative.

Abdomen—Liver enlarged two inches below the costal arch with a palpable mass in the epigastrium; marked tenderness over the liver and gall-bladder.

Temperature on admission, 101; pulse, 60; respiration, 20.

Preoperative treatment for cholaemia instituted for twenty-four hours.

Laboratory findings—Bile and a trace of albumin in the urine.

Blood count—W. B. C., 10,100; Polys, 86 per cent; R. B. C., 2,900,000; hgb., 55 per cent.

No blood pressure recorded.

Operative findings—Large, congested liver, extending three fingers breadth below the free border of the ribs, the under-surface coverd by a greenish exudate, the gall bladder extending beyond the free border of the liver, its walls thickened but not acutely inflamed, containing no stones; no dilatation of the common duct; head of the pancreas enlarged, soft.

Procedure—Cholecystostomy with finger exploration of the gall bladder; no

Contents of gall bladder—Thick, viscid, nonflowing bile.

stones palpable.

Dagnosis—Acute cholangitis with marked hepatic congestion and inflammation. Chronic pancreatitis.

No mention was made of the time of operation.

Exitus on the day of operation with an elevation of temperature of 107; pulse, 140; respiration, 40.

Hospital Number 63833—B. B.; female; aged 53. Patient has had typical attacks of cholelithiasis for a great many years. These attacks are very frequent recently.

Present illness—One week before admission was suddenly seized with severe right upper abdominal pain with marked tenderness and sensitiveness in the right hypochondriac region, tenderness extending from the right free border of the ribs to the umbilicus.

No physical examination recorded.

Temperature on admission, 102; pulse, 100.

Operative findings—Considerable amount of free fluid in the peritoneal cavity. Large congested liver. Gall bladder enormously distended, gangrenous with a perforation at the site of a large, single impacted stone in the cystic duct, transverse colon and omentum adherent to the gall bladder.

Procedure—Gall bladder partially emptied with trocar and canula. Cholecystecomy from below upward.

Operative time—32 minutes.

Patient did not react well from the operation and the following day developed temperature of 106, pulse of 140 Exitus.

Post-operative note—Patient cyanotic. Pulse and temperature elevated.

Examination of the chest revealed consolidation of both bases.

Cause of death—Contributory—Severe infection of gall bladder, extending to the peritoneum, as evidenced by the large quantity of reactionary fluid, post-operative hyperporexia.

Primary—Lung consolidation as evidenced by cyanosis, dyspnoe and consolidation of both bases.

Hospital Number 23331—A. B.; female; age 35.

Family history—Negative.

Past history—Married 15 years, five children, no instrumental deliveries, menstrual history negative; past history negative except for frequent attacks of gall stone colic.

Present illness—Five days before admission was seized with pain in right hypochrondriac region, felt nauseated and vomited. Pain was dull at first, then became localized over the gall bladder region, becoming more severe, radiating around the back and axilla. Two days before admission patient noticed she was becoming jaundiced. The jaundice increased in intensity up to the day of admission.

Physical examination—"Obese" patient, acutely ill with marked tenderness and sensitiveness over the gall bladder region; markedly jaundiced.

Admission temperature, 102; pulse, 120; respiration, 30.

Blood count—W. B. C., 14,000; Polys, 90 per cent.

Urine shows albumin and hyaline casts.

Operation on day of admission.

Time—One hour and thirty-five minutes.

Findings—Large, distended, red gall bladder with a great many gangrenous areas.

Procedure—Emptying gall-bladder of thick mucous and pus and many small stones with trocar and canula. Gall bladder incised, remaining stones removed with scoop and finger. Apparently my original intention was to do a drainage operation, but because of the marked pathological condition, a cholecystectomy was performed.

Pathological report—Suppuration and diffuse necrosis of gall bladder.

Post-operative course—Four days with exitus.

Temperature range 102-104; pulse, 140-150; respiration, 30-44.

On the day of death—temperature, 107; pulse, 176; respiration, 56.

Cause of death—Contributory—Prolonged anaesthesia, one hour and thirty-five minutes. Severely infected gall bladder. Poor judgment for not draining but because of her youth it was thought that she would withstand her infection and longer anaesthesia.

Primary—Double septic pneumonia.

Hospital Number 53639—A. G.; female; age 65.

Past history—Repeated attacks of cholecystitis of very long duration. Prolonged history of indigestion and attacks of hypochondriac pain with radiation to the shoulder, accompanied and relieved by vomiting.

This patient is of interest because I have persistently refused operation for a period of ten years. Because of obesity and the existence of marked cardiavascular renal changes.

Blood pressure—Always above 180.

Patient was taken to another institution where she was prepared for operation. Her children then prevailed upon me to care for their mother and, because of patient's persistent requests for relief, to operate upon her. All were advised of the possible unfavorable outcome.

Operation the morning following admission, gas oxygen anaesthesia.

Findings—Chronic cholecystitis; no stones; enlarged glands at the cystic and common ducts; negative pylorus and duodenum.

Operation—Cholecystectomy.

Time—15 minutes.

Exitus the day of operation with rapid elevation of temperature to 107; pulse, 160; respiration, 60.

Patient did not react.

In discussing this case, I will say that the only correct thing here was my prognosis. The cause of her demise was not her chronic cholecystitis but was the result of the administration of an anaesthetic in a patient whose reserve was practically nil in the presence of severe cardiovascular renal change, even a fifteen minute operative procedure under an anaesthetic was quite sufficient to push her over the border line.

Hospital Number 63922—S. F.; female, widow; age 65.

Patient is a mute. History furnished by relative of patient.

Chief complaint—Epigastric pain for past two weeks.

Past history—Intermittent attacks of pain for the past 13-14 hours; duration of attacks several days to a week. Marital, 40 years; no children. Present illness began with pain two weeks ago, very severe at outset, worse in the epigastric region, accompanied by severe vomiting and increasing jaundice until day of admission when the jaundice was very marked. Physical examination—well developed female, obese, acutely ill; markedly jaundiced. Heart very poor, musculature; no murmurs. Lungs negative. Abdomen rigid, resisting palpation; marked tenderness over the entire upper abdomen, most marked to left of midline above the umbilicus; tender in the left lumbar region; negative Murphy signs. Patient on admission had a temperature of 104; pulse 120. Blood pressure—S., 160; D., 85. Urine 2 plus bile, with trace of albumin; loaded with WBC. Blood count—W. B. C., 18,00; Polys, 77 per cent.

Preoperative diagnosis—Cholecystitis and acute haemorrhagic pancreatitis.

Preoperative treatment—On account of temperature and jaundice and extremely poor condition, operation deferred for three days, during which time, serum was administered, calcium lactate, hypodermoclysis given with gastric lavage and cardiac stimulation.

Operative findings—Very large gall bladder with oedematous walls, dilated common duct, with two large pancreatic calculii, one of the size of a walnut and the other size of a hickory nut in the substance of the head of the pancreas, encroaching on the common duct and causing jaundice.

Procedure—Removal of pancreatic calculli and cholecystostomy. Choledochotomy showed the common duct filled with pulverized debris and thick bile. Drainage of the hepatic duct through the common duct by tube.

Time—One hour.

Post-operative course—Twelve days, jaundice disappearing, highest range of temperature 102, pulse varied between 60-120, on the tenth day post-operative patient suddenly developed dyspnoea, cyanosis and a physical examination of the chest revealed fine, crackling rales with moderate dullness. Exitus twelve days post-operative.

Pathological report—Macroscopic, large gall bladder, walls thickened with serosa congested and, near the tip, a gangrenous perforation. Microscopic, walls of the gall bladder oedematous and show necrosis together with numerous miliary abscesses.

Cause of death—Contributory—Age of patient, common duct obstruction the result of pancreatic calculii, secondary pancreatitis, infection and gangrene of the gall bladder, liver dysfunction the result of jaundice, myocardial and renal changes as shown by high systolic blood pressure 70 and a low diastolic of 85 with a trace of albumin.

Primary—Pulmonary infarction twelve days post-operation.

Hospital Number 66177—F. F.; female; age 28.

Chief complaint—Jaundice for two months of increasing intensity; anorrexia; diarrhoea for past month with clay-colored stools.

Family history—Negative.

Previous history—Influenzal pneumonia two years ago, no complications.

Previous surgical—Appendectomy fourteen years ago at the Jewish Hospital with reoperation for a peritoneal abscess two weeks later; suspension of the uterus four years ago at the Jewish Hospital; cholecystectomy, eight months ago by the writer at the Jewish Hospital. Menstrual history—28-4-5; no dysmenorrhoea or metrorrhagia; no leucorrhoea; for past four months periods have been irregular. Married eight years; Para 2; both children living and well, seven and five years respectively; obstetrical—both deliveries instrumental. Previous illness—has been a sufferer with indigestion and gas eructations; belching and heart-burn; duration six years; for the past four years has had recurring attack of gall stone colic with radiation to back and shoulder, attended by vomiting; patient experiences cramps after meals; vomiting does not relieve pain; last attack two days before admission with severe pain in right upper quadrant and marked tenderness beneath the right costal arch; radiation to back and shoulder.

Operation—8/30/20. Findings—A large, gangrenous, distended gall bladder containing several stones and mucopurulent bile. The gall bladder was totally imbedded and was difficult to be separated from adherent omentum, stomach and duodenum; the liver was considerably enlarged, distended and congested; cystic duct was short; the ampulla of the gall bladder was almost flush with the common duct. Procedure—Cholecystectomy from below upward with drainage from Morrisons pouch. Time—forty-five minutes .

Convalescence—Uneventful except for severe pain in the region of the wound for first forty-eight hours with complete relief after appearance of bile on dressings; bile drainage continued for three weeks with a permanent closure and a free interval from symmptoms for six months, when the patient noticed a very high-colored urine, with the appearance of increasing jaundice, clay-colored stools, severe itching and diarrhoea. Duration of symptoms—two months.

Was readmitted to hospital 4/10/21. For the following three days treatment instituted to induce the coagulability of the blood and improve general condition.

Laboratory findings—Faint trace of albumin; many epithelial and pus cells; blood count, W. B. CH., 17,000; Polys, 83 per cent.

Coagulation time—Five and one-half minutes.

Blood pressure— S., 0; D., 65; pulse slow.

On account of increasing evidence of cholaemia, operation was advised and accepted 5/13/21.

Operative findings—Excision of the old right rectus scar. Complete fusion of the peritoneal cavity of the upper abdomen above the level of the transverse colon. The free border of the liver and its superior surface were intimately adherent to the parietal peritoneum of the anterior abdominal wall. The colon, omentum, stomach and duadenum one conglomerate mass, firmly fixed to the undersurface of the liver.

Procedure—Combined blunt and scissors dissection. The undersurface of the liver at the fissure site was separated from the duodenum and adjacent structures. The right border of the gastrohepatic omentum brought to view. The common duct isolated. At this site, it was not dilated, containing no stones or bile. Incision into this duct and probe passed into the duodenum did not meet with any obstruction, but on attempting to pass the probe toward the hepatic duct it was prevented by a complete cicatricial stricture at the junction of the common and hepatic ducts. The stricture was about three-fourths of an inch in length and occupied the deepest recess of the liver fissure. The duct was cut across. The duodenal end was ligated. The proximal end was followed up beyond the cicatricial band to the hepatic duct which was dilated. A medium-sized catheter introduced and sutured. A separate eliptical incision made into the duodenum anastomozing the posterior duct wall with the duodenal flap, the rubber tube then introduced into the duodenum and the remainder of the duodenal opening closed by approximating it to the under surface of the liver. An omenta graft sutured to the line of attachment. Drainage introduced behind the free border of the gastrohepatic ligament. Wound closed.

Operating time—Two hours. Amount of anaesthetic consumed ten ounces. Pulse at conclusion of operation, 120.

Post-operative treatment—To hasten reaction hypodermoclysis given; glucose and sodium bicarbonate by rectum; cardiac stimulation.

In following twenty-four hours, rapid increase of pulse, temperature and respiration until exitus with maximum temperature 106, pulse 150, respiration 50.

Cause of death—Contributory—Intense jaundice and cholaemia of two months duration. Nature of pathology—Cicatricial stricture at the junction of the common and hepatic duct. Prolonged anaesthesia—two hours with cholaemia.

Primary—Cardiorespiratory resulting in general dissolution affecting all vital organs of body.

In a discussion of this case and in all future cases of similar nature, it will be my procedure to directly expose and attack the site of obstruction with a view of diverting the bile to the external surface surface to combat the cholaemia with its dire and disastrous results, leaving the reconstructive work, if the patient survives, to be done under more favorable circumstances.

Dr. William Linder:

"I think the reader of the paper ought to be congratulated on presenting us with a paper such as he has. I think it is a classic, and the best way to discuss it is to say nothing.

"I just want to emphasize a few points.

"Dr. John laid emphasis on one point which we want to drive home, and that is that physicians and surgeons are not concerned with gall-stones and we should teach the laity that they are not operated upon for gall-stones. The term cholelithiasis ought to be stricken from our nomenclature. We are concerned with infection, with cholecystitis. Stone is a secondary product. It is produced, first, by stasis, and stasis favors inflammation, and the secondary product is the deposit of stone. If we do this we will not be chagrined when we operate on a case and the attending physician is there and we are unable to produce stones, then we will not have to carry stones and give to the patient some other patient's stones to feel justified of our operative procedure. Cholecystitis is the condition we are concerned with and if we put that over and do a little propaganda work, we will accomplish a great deal."

Speaking of the value of the X-ray in cholecystitis or cholelithiasis, the doctor said it was of "no value at all," and added that "in 80 per cent of cases you can make a definite pathological diagnosis from the clinical history and with the palpating finger or hand." This doctor stated that "in 20 per cent of cases you will use the X-ray to rule out, as Dr. John has very aptly said, associated lesions when the patient presents herself with so-called dyspepsia, a typical case. Then we want to rule out a gastric or quodenal ulcer or chronic appendicitis, which may give you the same symptoms-complex."

Continuing his remarks, Dr. Linder said: "I want to take issue with my brother on one point, and that is while theoretically all cases of gall-bladder disease should be operated upon and if they were, we would not have the superlative pathology which he mentioned. I would not go as far as that. I would put it this way: all acute cases should be operated on to save life.

"In chronic cases we should not lose sight of the fact that focal infection brings havoc to our myocardium and (causes) renal conditions. In chronic cases I would recommend for operation those cases which are incapacitated. If a patient has attacks once or twice or three times a year and she is satisfied and she is in good condition, put it up to her that she may get an acute exacerbation. I would not urge operation in such instances. If she says that the attacks interfere with the pursuit of her occupation or her social activities and she is having attacks more frequently, operation should be recommended.

Will cholecystostomy cure the disease? It will not. Shoveling stones from the gall-bladder will not cure cholecystitis because we are not concerned with stone. You can have stone carriers, as Kerr has pointed out. Stones don't concern us at all. At patient may have a stone and never present symptoms. The X-ray finds it rarely. The gynecologist finds it occasionally and he removes the stone by an ostomy and she has no recurrence of symptoms. Pure cholesterin stones will never bother the patient. Only definite calcium deposits on gall-stones will be shown in the X-ray plate. If you have calcium, you have inflammation, and if you have inflammation, you don't need the X-ray. The X-ray is of value in convincing the patient that she needs an operation. If you can show a few rings on the plate and that she has gall-stones, an operation is justifiable.

"I want to call attention to a rare condition, namely, chronic cholangeitis calculosa, so-called, without pain, colic or icterus, only chills and fever being present. The condition is very frequently mistaken for malaria or general sepsis, liver abscess, pylephlebitis or portal thrombosis. Remember that we may have a stone in the common duct, let me repeat, without pain, colic or icterus. I remember some years ago I was called to see a patient who had been treated for four weeks with injections of quinin in a small hospital hospital in the city, without any pain at all. made a diagnosis in that case of chronic obstruction and chronic cholangeitis in the presence of stone. The attending physician said to me, 'You are a good one if you can make that diagnosis and be correct, but you have got to show me.' The patient was brought to the hospital and operated on and we found a stone in the common ductor, although the ampulla was wide open. I went in with my uterine dressing forceps. She had cholangetitis. She had drainage and because she had drainage she had no icterus. Because she had drainage she had no chills and fever. You must bear that in mind. If you into the history of the patient you will get a history of definite gall-bladder disease, and then you can reason out the possibility of a stone there.

"It is important to realize that cholangeitis calculosa may be present without icterus or colic and a diagnosis of portal thrombosis or multiple silver abscess is made and operation deferred and the patient succumbs when an operation would have cured her. It is one of the most dangerous conditions to come to a patient with this syndrome and have it said to her that she has portal thrombosis and that nothing can be done for her. She has no jaundice, no pain and no colic. You say, 'We will treat her with fresh air.' She presents the typical cachexia of liver infection. She dies, whereas if you opened her, explored her and found a stone, you would have cured her.

"It has also been my good fortune to find a stone which was canalized, although it was impacted, in a case in which there was a definite history of stone, severe pain being complained of, but there was no jaundice. I was at a loss to understand it. I went in and removed the stone and found there was a nice little tunnel in the stone, through which she had been draining, and that was why there was no icterus and no chills and fever. She had a cholangeitis. That patient made an uneventful recovery.

"I would like to speak of another syndrome: A patient may have temperature, chills and fever and a stone with enlargement of either the right or left lobe of the liver, due to a stone in the hepatic duct causing an enlargement of the side where the hepatic duct is obstructed. I had a case referred to me with a definite history of gall-bladder disease. We found, day by day, that the left lobe of the liver was becoming enlarged. We made pen marks each day, after mapping out the liver, to denote the size of the liver, and each day we found that the liver was extending further down in the abdomen. She had jaundice. The peculiar part of the case was the fact that bile was present in the feces. How could you account for that? I ventured a diagnosis of stone in the left hepatic duct and enlargement of the left lobe of the liver. The patient had an abscess of the liver which was trying to perforate, and on opening the liver abscess a stone was found about the size of the tip of one's finger; and the patient drained from the right hepatic duct into the common duct and intestines, and, therefore, there was bile in the feces. There were chills and fever and jaundice, and still there were no clay-colored stools.

"Those are a few of the cases we meet with and which we must keep iin mind.

"I think Dr. John is to be congratulated on his excellent presentation of this subject."

Dr. Richard W. Westbrook:

"The very interesting thing about this series is the question of icterus.

"For years I have been interested in the question of hemorrhage, postoperative oozing, as a result of icterus. I note that there was 35 per cent of cases in which icterus was present. None of the deaths were due to postoperative oozing, I think. I would like to ask if in any case not dying there was any trouble with postoperative oozing. Although I believe that occurs, in my experience at least it has occurred in a very small percentage of cases, but I think we all fear it and fear it to an extreme at times, so that we defer operation longer than we should.

"I have heard surgeons say they would not operate in the presence of jaundice at all. Here is the other extreme. In this large series of cases jaundice has been present and apparently with no untoward results. I think most of us, however, prefer to keep our cases longer and, if possible, reduce the jaundice as far as possible, but I would like to ask that question."

Dr. Edwin H. Fiske:

"May I compliment the reader of the paper on his most excellent presentation of this subject, and also on the theme? That is very startling to me—the fifteen-minute, cholecystectomy, for instance.

"I would like to ask him what his stand and his practice is in regard to drainage in cholecystectomy cases. At the present time it is quite a moot and, to my mind, a doubtful procedure in the average case. If it won't take up too much time, I would also like to ask his incision and his technic of exposure of the gall-bladder."

Dr. Arthur H. Bogart:

"I would like to briefly report a case of a woman seen by me with jaundice in July, with sharp attacks of pain in the region of the gall-bladder. She was brought into the hospital and her condition was such that it was thought necessary that she should have an operation of some sort, but fearing hemorrhage, she was not operated at this time because we didn't dare subject her to operation. In this particular case there was no coagulation of the blood even after the lapse of twenty-five minutes. It seems that she scratched herself on the side of the neck and it was almost impossible to keep that from bleeding. She also gave a history of having had previously hemorrhage from the uterus and capillary hemorrhage from the stomach with vomiting of coffee ground material. We did a transfusion of 550 cc. of blood from her son. The transfusion was finished at about 12 o'clock, and at 3 o'c'lock the coagulation time was again taken and it was found to be down to six minutes. At 4:30 we operated her. There was no trouble with hemorrhage at all and she showed no signs of hemorrhage afterwards. She did, however, vomit some more of the coffee ground material, but there was no sign of hemorrhage from the wound, not any more than there would be from any ordinary case. I simply drained the gall-bladder in that case. I found the common duct very, very much dilated. We aspirated the gall-bladder. It seemed to me it would drain through that way. It didn't drain. It only drained bile for twenty-four hours. I supposed that case was due to carcinoma of the head of the pancreas. The pancreas was removed, but there was no other condition to account for it. She died. We never could account for the jaundice in her case."

Dr. John Linder:

"I want to take issue with Dr. William. I feel, gentlemen, wherever we have calculous deposits it is more than presumptive evidence of disease of your organ. Your patient may have a decided tendency to calculus, but besides that tendency, you have also an infected gall-bladder, and where you have stones or calculii, be they cholesterin or pigmented calcium covered stones, we should remove the gall-bladder.

"Regarding acute and chronic cholecystitis: Did you notice that in my total number of cholecystostomies and ectomies I only had fifteen non-calculus cases out of 100 cases of cholecystitis? What does that mean? In these fifteen cases, gentlemen, I will venture to say that every gall-bladder removed was apparently a grossly diseased organ. I have not reached the stage where I believe the gall-bladder should be removed where it is presumptively normal. It is the most difficult thing for me to operate on a patient with symptoms of cholecystitis when I see a blue gall-bladder. I have regretted a few instances where I left such a gall-bladder in situ with the result that there was a recurrence of symptoms. I have, on the other hand, never regretted taking one out where the organ was presumptively diseased. Still I cannot bring myself to the point where I want to remove a gall-bladder when I think it is functioning normally.

"In answer to Dr. Westbrook's very important question of hemorrhage I can only state that the Mayos recently reported the autopsy findings in cases of gall-bladder disease in which jaundice was present and post mortem they found in 50 per cent of the cases with jaundice hemorrhages were present in the peritoneal cavity. That has not been my experience. I don't recall a single instance where I lost a case as the result of hemorrhage. I don't hesitate to operate on patients who are jaundiced. I will say this: that the tendency to hemorrhages will be increased in each case of obstructive jaundice. Your hemolytic and infected jaundices do not have the same tendency towards bleeding.

"In answer to Dr. Fiske, I can only state that I do not hurry about operating. I mean I do not hurry during my operative procedure at all. I simply make the incision that is most applicable to the individual case. If I have an obese patient where I want good wide exposure I don't hesitate to make a large right rectus or pararectus incision. My incisions are large. My attack is direct. I usually wall off the upper abdominal cavity above the transverse colon with good retraction. There is very little difficulty, even in the acute cases, in doing a cholescystectomy. In the very bad ones, in the cases that occur in patients very much under the weather, the palpable gall-bladder, the simplest and easiest incisions is the Cocher or the incision recently developed by Dr. William, namely, a gridiron incision under the costal border of the ribs, which gives you a very rapid exposure in cholecystostomy."

Dr. Edwin H. Fiske:

"How about drainage, doctor?"

Dr. John Linder:

"Do you mean drainage of the peritoneal cavity?"

Dr. Edwin H. Fiske:

"Yes."

Dr. John Linder:

"I always drain them, doctor; always drain the ectomies and certainly drain the ostomies. I never have the courage to close them up. There was one instance where I forgot to put a drain in and this lady had a very stormy convalescence for forty-eight hours or more, but eventually made a recovery as nature came to her rescue by passing the bile along the incision."

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

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Introduction to the Study of the Protozoa

AN INTRODUCTION TO THE STUDY OF THE PROTOZOA WITH SPECIAL REFERENCE TO THE PARASITIC FORMS. By E. A. Minchin, M. A., Ph. D., F. R. S. Second Impression. London, Edward Arnold; New York Longmans, Green & C., 1922. 520 pages, illustrated. 8vo. Cloth $8.50.

After reading this book, one is inclined to exclaim with Hamlet:

"There are more things in Heaven and Earth,
Horatio,
Than are dreamed of in your philosophy."

The expedients adopted by these organisms in their struggle for existence to adapt themselves to their environment stirs our wonder and admiration. Were it permissible in a mere book-review, one might moralize upon certain resemblances between protozoa and the more or less finished products of evolution. The parasitism of certain humans in the body politic is quite analagous to the life of the parasitic protozoa.

One finshes this book with the impression that a really surprising amount of information has been furnished in most readable form. It is elementary protozoology, popularized, if you will. The author defines the protozoa, discusses their nutrition, structure and modes of reproduction, with the aid of many illustrations. Then follows a systematic review of the characteristics of the four classes of protozoa; sarcodina, mastigophora, sporozoa and infusoria. The pathogenicity of certain protozoa for man, obliges the physician to have a working knowledge of these organisms. He might wade through other and weightier tomes with less profit and pleasure than he would get from this well-written book. E. B. SMITH.

Human Efficiency and Levels of Intelligence

HUMAN EFFICIENCY AND LEVELS OF INTELLIGENCE. By Henry Herbert Goddard. Princeton, Princeton University Press, 1920. 128 pages. 12mo. Cloth, $1.50.

This extremely interesting little book is based upon four lectures delivered at Princeton University by the author in 1919. Goddard is so well known for his work as director of the Vineland Training School and more recently, as the head of the Bureau of Juvenile Research of Ohio, that any new output of his pen is sure to be received with interest by that large public which is concerned with the welfare of the feeble-minded.

The thesis of this little book is that intelligence is the chief determiner of mental conduct; this process is conditioned by a nervous mechanism that is inborn; that the degree of efficiency to be attained by that nervous mechanism and the consequent grade of intelligence or mental level for each individual is determined by the chromosomes that come together with the union of the germ cells; that it is but little affected by any later influence except such serious accidents as may destroy part of the mechanism. Any attempt at social adjustment which fails to take into account the determining character of the intelligence and its unalterable grade in each individual is illogical and inefficient. The author cites the results of the army psychological tests based upon the examination of one million, seven hundred thousand men from all parts of the United States and which can be fairly assumed to be representative of the entire population. In this classification, the men are divided into seven groups, A, B, C, C+, C—, D, D—, A representing the highest degree of intelligence. Only 4½ per cent of all the candidates fell in the A class, while 10 per cent are found in the D— class, which in the majority of instances, indicated a mental age of ten years or less; in other words, that approximately 10 per cent of the population are morons, and that the C group which comprises 25 per cent and is the largest individual group, is composed of men who are rarely capable of completing a high school course. These figures show the enormous proportion of the human race that is of only moderate intelligence. On the basis of these figures, Goddard argues that every human being reaches at some time a level of intelligence beyond which he never goes; that these levels range from idiocy to genius; that the number of people of relatively low intelligence is vastly greater than is generally appreciated and that this mass of low level intelligence is an enormous menace to democracy unless it is recognized and properly treated. The social efficiency of a group of human beings depends upon recognizing the mental limitation of each one and of so organizing society that each person has work to do that is within his mental capacity and at the same time calls for all the ability that he possesses. The failure to appreciate this fact and control it, has resulted in a vast amount of delinquency and impairs the efficiency of the total group to an extent little appreciated.

The author's solution of this problem is extremely interesting and should be read by every A and B individual who has at heart the welfare of his less fortunate brothers.

Practical Medicine Series

PRACTICAL MEDICINE SERIES, 1921. Comprising eight volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D.

VOL. VI. PHARMACOLOGY AND THERAPEUTICS. Edited by Bernard Fantus, M. F., M. D. Preventive Medicine, edited by Wm. A. Evans, M. D., D. P. H., with the collaboration of G. Koehler, M. D. Chicago, The Year Book Publishers. 386 pages, illustrated, plates. 12mo. Cloth, $1.75.

The 1921 volume of this perennial continues to maintain the interest characterizing the previous issues. This year nearly two-fifths of the volume is devoted to Preventive Medicine under the editorial supervision of Dr. Wm. M. Evans and is very interesting and instructive reading. In these few pages Dr. Evans has succeeded in concentrating an immense amount of information.

Dr. Bernard Fantus edited the section on Pharmacology and Therapeutics and has reviewed the subject in a masterly manner. So numerous have been the investigations in this branch of the medical sciences that to successfully abbreviate them all, as well as has been done in this volume, is an achievement indeed. We cheerfully commend this issue to those desiring to acquaint themselves with the most recent conclusions regarding the action and application of drugs. M. F. DeL.

VOL. V. GYNECOLOGY; OBSTETRICS. Edited by E. C. Dudley, A. M., M. D., LL.D.; Obstetrics, edited by Joseph B. De Lee, A. M., M. D. Chicago, The Year Book Publishers. 384 pages, illustrated, plates. 12mo. Cloth, $1.75.

A review of The Practical Medical Series, Vol. V, 1921, adds to the armamentarium of one's knowledge concerning gynecology and obstetrics.

The abstracts of the articles found in this volume are excellent, as they encompass in a short space the real worth of the article. When one has said this, he has said practically all that can be stated about such a book, *i. e.* that it fulfills its purpose admirably.

G. W. P.

VOL. VII. SKIN AND VENEREAL DISEASES. Edited by Oliver S. Ormsby, M. D., and James Herbert Mitchell, M. D. Chicago, The Year Book Publishers. 243 pages, illustrated. 12mo. Cloth, $1.75.

The editors have reviewed practically all of the current literature on these two special types of disease, and have made very careful abstracts of the most important subjects. Any one who wishes to review the many discoveries and opinions regarding syphilis will find all that is worth while in this volume.

There is no doubt of the value of the Practical Medical Series, for these volumes give all of the advanced medical thought contained in medical journals from all parts of the world.

W.

VOL. VIII. NERVOUS AND MENTAL DISEASES. Edited by Peter Bassoe, M. D. Chicago, The Year Book Publishers. 249 pages, illustrated. 12mo. Cloth, $1.75. (Price of series of 8 vols., $12.00.)

The 1921 literature on nervous and mental diseases is comprehensively reviewed and put together in such a manner as not to appear disjointed. As a great part of the information is culled from foreign publications, the topics are often discussed from widely different viewpoints. The author shows excellent judgment in stressing valuable and practical points.

The section upon epidemic encephalitis and its sequelae is quite complete and largely summarizes the present state of our knowledge. The more important results of the December 1920 meeting of the "Association for Research in Nervous and Mental Diseases," which met to discuss epidemic encephalitis, are related in this volume. The chapter on neurosyphilis embodies epitomes of recent monographs by Nonne and Gennerich. The important studies of Dandy on hydrocephalus and its management are reported in considerable detail. This volume is one which may be read with profit by both the general practitioner and the neurologist.

Frederic Damrau.

Knochen Und Gelenktuberkulose

TASCHENBUCH DER KNOCHEN — UND GELENKTUBERKULOSE (CHIRURGISCHE TUBERKULOSE). Von Dr. H. Schwermann. Leipzig, Curt Kabitzsch, 1920. 150 pages. 12mo. Paper, Mk. 20.

A compact hand-book complete in every detail, on bone and joint tuberculosis, with an appendix on tuberculosis of the skin and its derivatives, the eye and ear.

The author takes up the pathology of this disease in general, together with roentgenological diagnosis, and then describes the lesion in the different bones and joints. The accuracy in details, the simplicity of diction, added to his uncanny descriptive powers, remind one of the late John B. Murphy.

For one who has not had the good fortune of watching Lloyd Brown examine a spine, the author's delineation of the signs and symptoms of tuberculous spondylitis is indeed a treat. As an example of his painstaking care in writing this book, one has but to read the chapter on hip disease. Not only are all the signs, symptoms and stages of this process given, but also brief though complete differential diagnoses between tuberculous coxitis, Perthès disease, coxa vara, sarcoiliac disease, and congenital hips.

Throughout this treatise, the X-ray is relied upon as an important factor in diagnosis. The book is indeed a welcome addition to the library of both the general practitioner and the specialist. A. H. Iason.

Die Therapie Der Placenta Praevia

DIE THERAPIE DER PLACENTA PRAEVIA. Von Dr. F. Hitschmann. Berlin, S. Karger, 1921. 175 pages. 8vo. Paper, Mk. 24 plus 300% Valutazuschlag.

The early chapters of this brochure are concerned with the discussion of the Krönig and Sellheim theory of the pathogenesis and pathology of placenta previa. The dictum that the causative factor is low implantation of the ovum is accepted, but the idea that hemorrhage results from imperfect retraction and contraction of the musculature of the lower uterine segment, post-partum, is rejected, on the clinical evidence that 70 per cent of placenta previa cases (statistics collected from all the large European clinics), recover spontaneously; of the remaining 30, 20 per cent bleed before the separation and delivery of the placenta, and only 10 per cent bleed at the conclusion of the third stage and these cases bleed either as the result of cervical lacerations or atony of the uterine body.

Caesarian section is rejected. Quoting the large clinic statistics, the mortality of placenta previa is 5 per cent. The mortality of Caesarian section is 5 per cent. What, then, can be hoped for from Caesarian section in placenta previa? For this reason, Caesarian was not favored by many men. Hitschmann reasons also, that since the mortality is not due to post-partum hemorrhage as a result of the poor muscular contraction following dilatation and expulsion, why do Caesarian section.

He advocates tamponade by Braxton Hicks version or bag and emphasizes the necessity of spontaneous delivery of the foetus or bag.

Joseph Kaldor.

Wiederherstellungs-Chirurgie

WIEDERHERSTELLUNGS-CHIRURGIE. Von Prof. Dr. Erich Lexer. Leipzig, Johann A. Barth, 1920. 362 pages, with 798 illustrations. 8vo. Paper, Mk. 60; Bound, Mk. 80.

This reconstruction surgery is a resumé of the author's work during the World War.

The work contains chapters on bone defect, restoration of joint function, plastic surgery of the face and nose. There is also considerable work on nerve suture.

It is profusely illustrated both by photographs and radiographs. It is worthy of study by all surgeons. George H. Reichers.

The Mechanics of the Digestive Tract

THE MECHANICS OF THE DIGESTIVE TRACT. By Walter C. Alvarez, M. D. New York, Paul B. Hoeber, 1922. 192 pages, illustrated. 8vo. Cloth, $3.50.

This little book is a resumé and an amplification of the previously published isolated articles on this subject published by the writer. It presents in a clear readable form the epoch-making discoveries in gastrointestinal peristalsis made by Alvarez from 1913 to date. The theory of gradients in the digestive tract to account for the movement of the contents toward the rectum, entirely independent of central nervous control, while upsetting many previous, unsubstantiated ideas regarding "reflex conditions" and "autonomic vegetative" influences, fits in perfectly with the known facts regarding the normal and pathologic motor manifestations occurring in the digestive tube.

That gradients do exist has been conclusively proved by Alvarez's experiments. He shows that gradients of rhythm, tone, irritability, latent period, metabolism and even of anatomical structure can be demonstrated to be present. A chapter on the "Application of the Gradient Idea" makes suggestions which ought to revolutionize the diagnosis and treatment of gastrointestinal diseases. It is a book that every physiologist, internist, roentgenologist and surgeon should own and study. A. F. R. A.

Infant Feeding

INFANT FEEDING. By Clifford G. Grulee, A. M., M. D., LL.D. Fourth Edition, thoroughly revised. Phila. and London, W. B. Saunders Co., 1922. 397 pages, illustrated. 8vo. Cloth, $4.50.

The fourth edition of this comprehensive book on infant feeding covers the advances made in this subject since the appearance of the previous edition during a period which the author feels can well be termed the American Period, as it was marked by a definite advance in American pediatrics with a corresponding decline in European publications. He discusses the investigations of Marriott of intoxication and decomposition and merely mentions the elaborate system of Pirquet, as he thinks that it will take some time to demonstrate whether or not this latter method is practicable or not.

The book is written in a very lucid, readable and interesting style, and should prove to be of value to both the pediatrist and the general practitioner. M. B. GORDON.

Treatment of Common Female Ailments

THE TREAMENT OF COMMON FEMALE AILMENTS. By Frederick John McCann, M. D. London, Edward Arnold & Co., New York, Longmans, Green & Co., 1922. 152 pages. 8vo. Cloth $3.00.

A review of this book leaves much to be desired in the fact that the reviewer feels too much space is allotted to diagnosis, etc., consequently, at times relegating treatment to the background.

In regard to treatment the author has encompassed in a short space many valuable suggestions, and his incessant warnings on the conduct of examinations, both gynecological and obstetrical, in an aseptic manner, is indeed timely.

Transfusion has been left out, although, in this country, its therapeutic value is occupying an ever enlarging field.

No mention has been made of benzyl-benzoate, and the reference to radium and X-ray is all too short. G. W. P.

Vitamines: Essential Food Factors

VITAMINES; ESSENTIAL FOOD FACTORS. By Benjamin Harrow, Ph. D. New and enlarged edition. New York, E. P. Dutton & Co., 1922. 261 pages. 12mo.

This is a reprint of the book reviewed in the November, 1921, issue of this Journal, with additions printed in the appendix. The new matter consists of a record of some feeding experiments with rats conducted in the Columbia Laboratory of Physiological Chemistry. Also a review of the literature of the year 1921, thus bringing the subject up to the beginning of the present year. E. H. B.

Accessory Food Factors (Vitamines)

REPORT OF THE PRESENT STATE OF KNOWLEDGE CONCERNING ACCESSORY FOOD FACTORS (VITAMINES). Compiled by a Committee appointed jointly by the Lister Institute and the Medical Research Committee. London, Published by His Majesty's Stationery Office, 1919. 107 pages, illustrated. 8vo. Boards, 1.25. (Reprinted 1922 by the Vitamin Research Laboratories, Westfield, Mass.)

This is one of a number of reports of special committees, issued by the Medical Research Council. It is a very complete resumé of what was known on the subject of Vitamines up to July, 1919.

The bibliography of references to original papers is quite full, and it is, therefore, a valuable contribution to the literature of the subject, for those who may wish to become well informed on vitamines.

It has been reprinted by the Vitamine Research Laboratories of Westfield, Mass., and presented in book form for American readers. E. H. B.

Essay on the Physiology of Mind

AN ESSAY ON THE PHYSIOLOGY OF MIND. An interpretation Based on Biological, Morphological, Physical and Chemical Considerations. By Francis X. Dercum, A. M., M. D., Ph. D. Philadelphia and London, W. B. Saunders Company, 1922. 150 pages. 12mo. Cloth, $1.75.

This interesting little work can be read through at a sitting. It is pleasing to find one of our medical psychologists discussing advanced themes. Only an occasional dictum can be noticed.

"That memory is a purely dynamic function there can, I think, be no question." "Between 'initiative' and 'will' or 'will power' there is a close kinship." Variable or adaptable responses, choice, in the discussion of consciousness, he limits to the cortex, while "fixed" responses are those of all parts below.

Of course he is much interested in his favorite theory of neurone-retraction at the synapses. Whether we accept as conclusive his argument in favor of this, it can be readily granted that this view serves a useful purpose in visualizing facts, much as do formulae in chemistry and chain-theory in bacteriology.

"Sensation is a self-evident condition of consciousness and is inseparable from it,"—quite true if only a sensory preception is meant, but not if a sensory impulse is intended.

"It follows, therefore, that consciousness is only present in the neurones that are actively concerned in transmission." Does this mean that the only active neurones are those engaged in transmission? If so, who starts the game? "Whatever consciousness may be, it is something that is constantly changing."

It is a great advantage that the book is so beautifully printed. Some friendly adviser should be at hand to delete the many instances of probably, possible, hypothetical, assumed, etc. W. B.

Pneumonia

PNEUMONIA. By Frederick Taylor Lord, A. B., M. D. Cambridge, Harvard University Press, 1922. 69 pages. 12mo. Cloth, $1.00. (Harvard Health Talks.)

This booklet is the substance of one of the popular Sunday afternoon lectures given at the Harvard Medical School. It covers briefly, in language understandable to the laity, our present knowledge about pneumonia, with suggestions for its prevention and treatment. It is a very elementary treatise and is intended more for use by the public than by the medical profession.

Die Geschlechtskrankheiten

DIE GESCHLECHTSKRANHEITEN. Ihr Wesen, ihre Erkennung und Behandlung. 2. Auflage. Von Dr. Karl Zieler. Leipzig, Georg Thieme, 1922. 184 pages, illustrated. 12mo. Cloth. Mk. 90.

The second edition of Dr. Zieler's book on venereal diseases shows evidences of careful revision. The subject of the various genital diseases have been brought up to date. The most valuable chapter is the one dealing with the treatment of syphilis. The tables and illustrations are excellent. W.

Surgical Clinics of North America

SURGICAL CLINICS OF NORTH AMERICA. Published bi-monthly by the W. B. Saunders Company, Phila. and London. Illustrated. 8vo. Paper (price per year, 6 nos.) $12.00.

Volume 1, Number 6. December, 1921. This issue consists of clinics by surgeons connected with New York City hospitals. Staff members of Bellevue, Beth Israel, Mount Sinai, New York and Saint Luke's Hospitals are among the contributors. Jejunostomy, indications and technique; bronchiectasis with lobectomy and intradural encapsulated metastatic adenocarcinoma attached to cervical cord, are some of the interesting articles.

Volume 2, Number 1. February, 1922. The February, 1922, number contains sixteen clinics and contributions by Philadelphia surgeons associated with the Episcopal, Lankenau, Jefferson, Presbyterian, Saint Agnes and University of Pennsylvania Hospitals. This issue, like its predecessors, is filled with many interesting and well written articles. HARRY R. TARBOX.

Medizinische Psychologie

MEDIZINISCHE PSYCHOLOGIE. Von Dr. Ernst Kretschmer. Leipzig, Georg Thieme, 1922. 305 pages. 12mo. Paper. Mk. 118.

In a very well-written manual of three hundred pages, Kretschmer discusses those phases of psychology which are of chief concern to the physician. The work is in no sense a comprehensive text-book on the subject of normal psychology, but in fact deals almost exclusively with morbid manifestations. Without offering original research this little volume epitomizes the present state of our knowledge of psychopathology.

Several chapters deal in an interesting manner with the evolution of the mental processes and contrast the reaction-types of primitive peoples with those of today. In this connection, ancient Egyptian and primitive American hieroglyphics are analyzed, together with the closely related topic of modern impressionistic and cubist art.

In considering the evolution of the emotions, Kretschmer adheres closely to Freud. He points out one essential difference between the ancients and ourselves. Where we should say, "I am reverent in the presence of the priest" or "I suffer from dread and grief at the sight of a corpse," thus identifying the emotion with ourselves, primitive man declared, "The priest is taboo" or "Taboo sits in the corpse," thus projecting the emotion into the outer world. The taboo owes its origin to an ambivalence of feeling-tones, the one holy, the other obscene. These taboos constitute the beginning of man's moral code.

In the study of the meaning, elaboration, and analysis of dreams, Freud is chiefly quoted. Likewise, the perversions of sexual instinct are interpreted as arrests at certain stages of the polymorphous perverse sexual life of children ,occurring before the fixation of the libido upon the usual erogenous zone . Slips of the tongue and similar lapses of conduct are, as in Freud's "Psychopathology of Everyday Life," considered as expressing the real meaning and utilized as complex-indicators. The psychological mechanisms of schizophrenia are dissected. Examples are taken from Bleuler to show the significance which analysis may place upon apparently meaningless phrases.

The section on psychotherapy is succinct and yet adequately describes the newer methods of treatment. Some general remarks are made as to the harm that may be done by carelessly juggling medical terms such as arteriosclerosis, tuberculosis, etc.; inasmuch as they may form the basis of a fixed idea with a chronic hypochondrical depressive state. Suggestion in its various forms, direct suggestion, veiled suggestion, and suggestion under light hypnosis, are described at length. The author concludes that no form of psychotherapy should be based upon suggestion alone. To be sure, manifest symptoms of disturbance can thus be removed; but with the effacement of these symptoms, our problem has just begun. Isolation, discipline, persuasion, "explaining away," and occupational therapy are all given their proper importance. The technic of the psychoanalytic method, including conversational exploration, the Bleuler and Jung association tests with series of words, the free association method together with the analysis of dreams, and psycho-catharsis (the analysis under light hypnosis of Bruer and Freud), are described. FREDERIC DAMRAU.

Books Received

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgement of receipt has been made in this column.

RACE DECADENCE. An Examination of the Causes of Racial Degeneracy in the United States. By William S. Sadler, M. D., F. A. C. S. Chicago, A. C. McClurg & Co., 1922. 421 pages, illustrated. 12mo. Cloth, $1.50.

THE DIAGNOSTICS OF INTERNAL MEDICINE. By Glentworth Reeve Butler, M. D., Sc. D., LL. D. Fourth Revised Edition. New York and London, D. Appleton & Company, 1922. 1380 pages, 322 illustrations, four colored plates. 8vo. Cloth, $10.00.

PRACTICAL INFANT FEEDING. By Lewis Webb Hill, M. D. Phila. and London, W. B. Saunders Company, 1922. 483 pages, illustrated. 8vo. Cloth, $5.00.

HEART DISEASE; ITS CARE, CURE AND PREVENTION. Suggestions for Persons Suffering from Disease of the Heart and Blood Vessels. New York, Dodd, Mead & Company, 1922. 204 pages. 12mo. $2.00.

THE MECHANICS OF THE DIGESTIVE TRACT. By Walter C. Alvarez, M. D. New York, Paul B. Hoeber, 1922. 192 pages, illustrated. 8vo. Cloth, $3.50.

CLINICAL TUBERCULOSIS. By Francis Marion Pottenger, A. M., M. D., LL. D. Second Edtiion. Two volumes. St. Louis, C. V. Mosby Company, 1922. 707 and 725 pages, illustrated, plates. 8vo. Cloth, $15.00.

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B. S., M. D., and William E. Carter, M. D. St. Louis, C. V. Mosby Company, 1922. 654 pages, illustrated. 8vo. Cloth, $7.50.

PRACTICAL MEDICINE SERIES. Comprising eight volumes on the year's progress in medicine and surgery. Under the General Editorial Charge of Charles L. Mix, A. M., M. D. Series 1921. Vol. 7, Skin and Venereal Diseases, Edited by Oliver S. Ormsby, M. D., and James Herbert Mitchell, M. D. Chicago, The Year Book Publishers. 243 pages, illustrated. 12mo. Cloth $1.75. Series 1921. Vol. 8, Nervous and Mental Diseases, Edited by Peter Bassoe, M. D. Chicago, The Year Book Publishers. 249 pages, illustrated. 12mo. Cloth, $1.75. (Price of series of 8 vols. $12.00.)

SURGICAL CLINICS OF NORTH AMERICA. Published Bi-Monthly by the W. B. Saunders Company, Phila. and London. Vol. 2, No. 1, February, 1922. Philadelphia Number. 331 pages, illustrated. 8vo. Paper (price per year, 6 nos.) $12.00.

INTERNAL SECRETION AND THE DUCTLESS GLANDS. By Swale Vincent, LL. D., D. Sc., M. D. Second Edition. New York, Longmans, Green & Co., 1922. 422 pages, illustrated. 8vo. Cloth, $8.50.

DIET AND RACE. Anthropological Essays. By F. P. Armitage, M. A. London and New York, Longmans, Green & Company, 1922. 144 pages. 8vo. Cloth, $2.25.

DISEASES OF WOMEN. By Ten Teachers. Under the Direction of Comyns Berkeley, M. A., M. D. Edited by Comyns Berkeley, H. Russell Andrews, J. S. Fairbairn. Second Edition. New York, Longmans, Green & Co., 1922. 641 pages, illustrated. 8vo. Cloth, $10.00.

MOTHERHOOD. A Practical Guide for the Newly Married, including Determination of Sex, Intercourse during Pregnancy, and Prenatal Influence. By H. W. Long, M. D. Boston, Richard G. Badger, 1921. 195 pages. 8vo. Cloth, $3.00.

OUTWITTING OUR NERVES. A Primer of Psychotherapy. By Josephine A. Jackson, M. D., and Helen M. Salisbury. New York, The Century Co., 1922. 403 pages. 12. mo. Cloth $2.50.

A PSYCHOANALYTIC STUDY OF PSYCHOSES WITH ENDOCRINOSES. By Dudley Ward Fay, Ph. D. New York and Wash., Nervous & Mental Disease Publishing Co., 1922. 122 pages. 8vo. (Nervous & Mental Disease Monograph Series No. 33.)

THE THYROID GLAND. Clinics of George W. Crile and Associates. Edited by Amy F. Rowland. Phila. and London, W. B. Saunders Co., 1922. 288 pages, 106 ilustrations. 8vo. Cloth, $5.00.

SURGICAL AND MECHANICAL TREATMENT OF PERIPHERAL NERVES. By Byron Stookey, A. M., M. D. Phila. and London, W. B. Saunders Co., 1922. 475 pages, 217 illustrations. 8vo. Cloth, $10.00.

THE PLACE OF VERSION IN OBSTETRICS. By Irving W. Potter, M. D., F. A. C. S. St. Louis, C. V. Mosby Company, 1922. 138 pages, with 42 illustrations. 8vo. Cloth, $5.00.

RADIUM THERAPY. By Frank Edward Simpson, A. B., M. D. St. Louis, C. V. Mosby Company, 1922. 391 pages, with 166 original engravings. 8vo. Cloth, $7.00.

TUBERCULOSIS IN INFANCY AND CHILDHOOD. By J. Claxton Gittings, M. D., Frank Crozer Knowles, M. D., and Astley P. C. Ashhurst, M. D. Philadelphia and London, J. B. Lippincott Company, 1922. 273 pages, with 23 illustrations. 8vo. Cloth, $5.00.

INNERE SEKRETION. IHRE PHYSIOLOGISCHEN GRUNDLAGEN UND IHRE BEDEUTUNG FUER DIE PATHOLOGIE. Von Prof. Dr. Artur Biedl. 4. Auflage. Band I, 1 Teil und Band III, Literatur. Berlin & Wien, Urban & Schwarzenberg, 1922. 8 vo. Paper, Mk 540, each part.

VITAMINS AND THE CHOICE OF FOOD. By Violet G. Plimmer and R. H. A. Plimmer, D. Sc. Lond. and N. Y., Longmans, Green & Co., 1922. 164 pages, illustrated. 8vo. Cloth, $2.50.

COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINNESOTA. Edited by Mrs. M. H. Mellish. Volume 13, 1921. Phila. and Lond., W. B. Saunders Co., 1922. 1318 pages, 392 illustrations. 8vo. Cloth, $12.00.

GLANDS IN HEALTH AND DISEASE. By Benjamin Harrow, Ph. D. New York, E. P. Dutton & Co., 1922. 218 pages. 12mo. Cloth, $2.50.

TASCHENBUCH DER ROENTGENOLOGIE FUER AERZTE. Von Dr. Henri Hirsch und Dr. Rud. Arnold. Berlin, Julius Springer, 1922. 107 pages, illustrated. 12mo. Paper, price in U. S., 90 cents.

THE HABIT OF HEALTH; HOW TO GAIN AND KEEP IT. By Oliver Huckel. New York, Thomas Y. Crowell Co., 1922. 128 pages. 12mo. Cloth, $1.00.

VITAL FACTORS OF FOODS, VITAMINS AND NUTRITION. By Carleton Ellis, S. B., F. C. S., and Annie Louise MacLeod, Ph. D. New York, D. Van Nostrand Company, 1922. 391 pages, ilustrated. 8vo. Cloth, $5.00.

SURGICAL CLINICS OF NORTH AMERICA. Published bi-monthly by the W. B. Saunders Co., Phila. and London, Volume 2, No. 2, April, 1922, San Francisco Number. 259 pages, 112 illustrations. 8vo. Paper (price per year, 6 nos.) $12.00.

NEW GROWTHS AND CANCER. By Simeon Burt Wolbach, M. D. Cambridge, Harvard University Press, 1922. 53 pages, illustrated. 12mo. Cloth, $1.00 (Harvard Health Talks).

HEALTH AND EFFICIENCY. By Thomas Darlington, Ph. B., C. E., M. D. New York, Wynkoop-Hallenbeck-Crawford Co., 1922. 262 pages. 8vo. Cloth, $1.50.

ONE. By Sarah Warder MacConnell. New York, The Macmillan Company, 1922. 280 pages. 12mo. Cloth, $1.75.

BI-SEXUAL LOVE; THE HOMOSEXUAL NEUROSIS. By Dr. William Stekel. Authorized translation by James S. Van Teslaar, M. D. Boston, Richard G. Badger, 1922. 359 pages. 8vo. Cloth, $6.00.

APPLIED CHEMISTRY; AN ELEMENTARY TEXT BOOK FOR SECONDARY SCHOOLS. By Fredus N. Peters, Ph. D. St. Louis, C. V. Mosby Company, 1922. 461 pages, illustrated. 12mo. Cloth, $3.50.

SYMPTOMS OF VISCERAL DISEASE. A study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Frances Marion Pottenger, A. M., M. D., LL. D. Second Edition St. Louis, C. V. Mosby Co., 1922. 357 pages, with 86 illustrations and 10 plates. 8vo. Cloth, $5.50.

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The Prevention of Epidemic Poliomyelitis*

William Browning, M. D.
Brooklyn, New York

THE scourge of 1916 found us, as it proved, without a settled policy. Sufficient time has since elapsed for discussion and the formation of conclusions. Any year may bring a recurrence. Are we any better prepared now?

Progress has been made in treatment and after-care. But the best treatment is prevention. Can this be accomplished? To a large extent it certainly can be, if we take lessons from experience, and that is the final guide. To elucidate this conclusion a brief review is required, chiefly of that epidemic.

But first let me mention the experience at Kings County Hospital in previous outbreaks. The polio cases admitted at these times were handled without the distributing pressure of public clamor or of interference from above. On conferring with the superintendent at one of these periods, it was decided from earlier experience that there was no risk, nor did there prove to be any. This policy continued in effect until forcibly reversed by the health authorities in 1916.

The published statistics of the hospital show that there were five such cases in 1907, twenty-eight in 1910, twenty-one in 1911, and four in 1912, a total of fifty-eight in the ten years next preceding the main outbreak. And there may have been a few more in the years (1908, 1909 and 1914) for which the statistics are not available. Scattered cases for years before had been handled safely in the same manner. All these polio cases were put in with other patients, mostly children, scattered through a large ward, not in any way segregated but cared for in the same way as the other children. The same nurses attended these and the other youngsters. Friends visited them just as they did the others. No case of new infection developed. This series included single and multiple, moderate and fatal, epidemic and sporadic, fresh and less fresh cases. It covers a number of years, and is of sufficient extent to warrant at the county our non-fear of contagion. That like observations have been made in innumerable instances elsewhere in no way detracts from their significance. It is not a matter of theory or speculation but of widely-known fact.

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*From a paper read Feb. 27, 1922, before the Medical Club of Brooklyn.

If these cases did not give the infection to children in the next cots on each side and some but a few feet away, and if the visitors did not scatter it either to these others in the ward or to sibs remaining at home, then only a perfervid imagination can assume that these same visitors had the ability to distribute the germs, directly or by second and third intermediaries, to still remoter children. In point of fact there is little real evdience that any such thing has ever happened. As neither the personal laundry and bedding of the patient nor the apparel of visitors induced any secondaries, it can be concluded that clothing plays but a minor if any rôle as a carrier. The matter of "personal contact" will be considered below.

As infection was kept from these other youngsters, up to twenty and more in number at a time, by the simple expedient of hospital care, the statement above that the disease can be prevented is fully warranted. For general application it comes down to the determining of any principles involved and the application of knowledge thus gained.

What can be distinguished as the factors that protected the other children in the ward? On admission all are of course cleaned up externally, and their clothing is disinfected. Food was prepared at a distance, given in individual portions, and served promptly when brought to the ward. Vermin excluded, insects but partially so. Quiet in bed. And general cleanliness, including disposal of the excretions.

The experience of those years has served as a criterion in later work, and justifies the following observations:

1. That polio is not directly catching from person to person, not in the old sense air-borne or contagious, any more than is yellow-fever typhus malaria or (ordinarily) typhoid. The cleaned-up quiet child is not under these circumstances a source of danger.
2. That customary hospital care suffices to control spread of the infection.
3. That quarantining these patients does no good.
4. That polio does not require isolation or segregation. It can be treated in the same ward with other troubles and other children, just as typhoid is cared for in many hospitals.

So far as can be determined from this series of cases, the things left open to suspicion are: insects or vermin, food not freshly cooked and the dejecta.

THE RECENT OR 1916 EPIDEMIC

This began about June 1, and hence had a full season for expansion, thus partially accounting for the total, provided there was no way of checking it.

But the epidemic, right from the start, was managed by the authorities in a manner radically different from any that had before been applied in that disease.

And, when finished, it proved to have been by far the worst outbreak of the kind, the most destructive epidemic of this disease, that the world has ever known. A large cost of life, health, money and upset to all.[1]

It requires no argument, no technical nor medical acumen, just ordinary common sense, to draw conclusions. Even the public, in the words of Tennyson, "knew someone had blundered."

The reversal of sanitary policy toward this disease included such things as: Quarantining, isolation, removal by force to hospitals, separation of children by hundreds from their parents, and a general campaign of frightening the public. In fact nothing short of a reign of terror was produced where people had children. In addition to and in support of this was the new and *(v. infra)* mistaken view that cord-involvement is effected by the nasal-subarachnoid route and that the nose is the main distributor of infection, and in consequence the relative ignoring of the dejecta, previously suspected and still to be regarded as a main source.

In the country as a whole, acute poliomyelitis is said to have caused 10,000 deaths and produced 30,000 cripples in 1916, the epidemic getting its start and main impetus here, though small groups started elsewhere. These estimates for the whole country do not of course show the total incidence of the disease.

The authorities apparently became dominated by certain ideas that had gained attention abroad regarding this trouble. At the same time previous experience and methods were discarded. This break with the department's past, rumor had it, was incited by quasi-political considerations.

You recall that this was a reform administration. Its lights did not seem to feel that the spirit of the time could be adequately met by just giving good government, correcting abuses and following a constructive policy, but rather that they had a warrant to experiment, strike right and left and install everything new. There was a rage for stunts, innovations and things to catch the public eye. Expansive ideas were rampant, communal megalomania. Everyone must make a hit or *git*. A nut-cracker hung over any head, thought worth while, unless its owner goose-stepped.

The Department of Health had of course to do its turn. What could be more opportune than a novel epidemic? And advisors had right at hand a brand new scheme freshly imported.

On this basis the powers sought to do a grandstand play in high science—and succeeded but too well. At the time we could but admire the thoroughness, ruthlessness and marvelous ability with which it was engineered. This makes the bad results all the more decisive. And one sweetly solemn thought can be derived, viz.: that this phantasy is decided. We know definitely that the maximum skill cannot make a success of it.

The city was mulcted to the extent of $1,000,000 at a single haul. The department, through the Mayor, made no bones of saying it wanted the money to make a big drive with, and got it. To the extent that this was used to clean up the city, it need not be considered misspent, though it exerted no appreciable influence on the course of the epidemic.

The move proved to be a folly like that which aided to spread yellow fever up the Mississippi Valley in 1878-9, and made Memphis a morgue. From that time it has been recognized that even a shot-gun quarantine cannot be applied to communities in this country without a prospect of doing more harm than good.

Some protests were made, chiefly by colleagues elsewhere, and who spoke through medical channels merely. It is time to face this new danger. For, we are made the scape-goats. The question was continually thrown at us, "Don't you doctors know anything?" "What is the matter with you?" "Can't you help us?" It will take much effort to offset the medical black-eye thus received. It is in the public interest to be on our private guard. At least we must provide a program of hope.

This is not such a light matter even to the cause of public sanitation. With more such fiascos who can tell how soon people will rise in wrath, or what will happen to Boards of Health?

From all this it is clear that the first step in the general prevention of polio is the discarding of the 1916 program, the abolition of quarantine, and the substitution of safer past methods or of something justiable. Even Wickman, though favorable in theory, says "Isolation of the patient seems not to be essential."

THE PATH IN THE BODY BY WHICH THE VIRUS REACHES THE CORD

There are two distinct theories regarding the point of entry into the system and the route followed to reach the spinal gray.

The later view is that insisted upon by the defenders of the 1916 program, and on which their sanitary plan seemed to rest. They merely show by tests the presence of the virus in the nose, and then without further apparent evidence jump to the conclusion that it goes thence by lymphatics to the basal subarachnoid space and so on to the cord. Besides that lack there are against this view various and insuperable objections.

In the first place plenty of infective organisms can one time and another be found in the nose. If they could slide up so readily into the basal subarachnoid, we'd be in no end of trouble all the time. That the polio bug has a special key to open that passage is hardly presumable.

Moreover there are cases of traumatic leakage of fluid through ear or nose, and which sometimes continue for days and weeks without necessary access thereby of infections of any kind to the meninges, despite both the relatively free opening and the consequently lowered pressure of fluid from within. If this does not serve the bugs, except occasionally, the minute and limited lymphatics certainly cannot.

Then in these lymphatics the pressure is predominantly from within and the current outward. Nor does the lymph clot and so build up a solid septic column as occurs in the veins. And in the rare cases where erosion or operation gains access to nerve-sheath or subcranium, there is plenty of collateral evidence of the fact.

For these reasons it is clear that infection upwards by this path occurs rarely if at all.

But, if just for argument, we suppose an infection has crawled up thus far and also that it has wandered along into the spinal subarachnoid, there is still some question whether it can reach the gray. Normally there are no passages open to it inwards. Injections by various observers have failed to demonstrate any. The spinal subarachnoid in the human becomes a closed sack, except at the top, soon after birth. And if there were myelic connections the flow would be outward, and the infective material restrained. Cellular interstices that permit the penetration of histologic stains cannot be favorable channels for the deep transmission of even a filterable virus.

Archambault, *Alb. M. Annals*, 1916, page 20, from pathological studies, finds that, "The virus of poliomyelitis is carried into the central nervous system through the bloodstream and particularly by way of the vertebral artery and its distribution."

"Repeated attempts have been made to demonstrate the virus of poliomyelitis in the spinal fluid of infected human beings, but so far all have proved negative" (N. Y. C. Department of Health's "Monograph on the Epidemic of Poliomyelitis," 1917, page 85), where other workers are cited to the same effect. In fact this is one of the few fluids or tissues of the body regularly found negative. This constitutes proof apparently absolute of the falsity of the assumption.

The evidence is therefore uniform and comprehensive. We can be triply and quadruply sure that the naso-basal route is based on fancy rather than fact.

Fortunately there is a better explanation. The alternate and formerly accepted route is via the gastro-intestinal tract and the general circulation. The clinical evidence in favor of the intestinal path appears now convincing.

Attacks of acute gastro-intestinal disturbance precede or accompany many onsets of polio. They do not follow the cord trouble, mind you, but usually precede it. Wickman says, "In man the gastro-intestinal signs appear as a rule at the onset of the disease." These are often nocturnal and so fulminant in character as to be almost pathognomonic. Sometimes they subside and recovery appears established before paralysis is evident. In other words, the secondary lodgement of the infection in another part of the system varies somewhat in time just as we might expect it to do.

From the failure of feeding experiments in animals (v. Amoss, *N. Y. State Journal of Medicine,* 1922, June), it is evident either that such experiments do not apply to the human, or that some gastro-intestinal disturbance is an important factor in human cases.

The possibility of infection by inhalation is not sufficiently different to require special consideration. That the presence of enlarged tonsils and adenoids favors the acquisition of polio is not strange.

Infection through wounds or insect bites has not been proven, but would not in principle differ so far as concerns transmission by the general circulation.

METHOD OF SPREAD

How is the disease disseminated? No explanation of this has met with general acceptance. Nevertheless there are certain facts so striking as to give a more than plausible value.

In a question where technicians in great variety are baffled, it is well to see if there are not general principles that can furnish us with a sufficient answer to meet practical needs.

As above pointed out, the idea that it is directly contagious is unwarranted on the one hand, and, as proven by the last epidemic, disastrous in its application on the other. Professor Brues of Harvard, in his "Entomological Study of the 1916 Epidemic" *(v.* the Board of Health's own "Monograph"), showed repeatedly that the evidence he gathered was opposed to the theory of "infection from person to person."

The fact that the trouble starts in so many cases from the gastro-intestinal tract speaks strongly for material taken into the stomach (ingesta) as the usual agent.

The further fact that most epidemics arise in hot weather, when foods of all kinds are likely to spoil, adds another link in the same sense. Quite in harmony with this are the items regarding insects, cited below.

We know that typhoid is acquired in this way. And recognized methods of spread afford the best background for estimating new propositions.

The distribution of cases of polio bears also a close analogy to that of typhoid, scattered or so-called sporadic occurrence, and increasing aggregations all the way up to an epidemic such as we had here.

And in seasonal occurrence there is a further close similarity. Typhoid is a late summer trouble, and polio with us waxes with the heat of summer. "The seasonal prevalence corresponds with that of typhoid fever" (New York State Report).

"The disease follows the curve of summer diarrhoea as to age and season" (Urey, *Pennsylvania Medical Journal,* 1908, 785), an infection that all attribute to swallowed germs.

Furthermore, while the summer excess predominates, yet each disease may occur, even in epidemic form, at any time in the year, a fact that as regards polio has puzzled many, but is thus intelligible.

Then, where so many agencies have been suspected, and several partially proven, we must look for a cause of multiform possibility. And here again typhoid is our best if not exclusive prototype.

That more than one case is occasionally seen in a family merely duplicates what is seen in typhoid, pneumonia, malaria and other infections.

To date no other line of equal warrant has been made out. That this infection is ingesta-borne affords the most accepetable interpretation. It accounts for all the facts, there appears to be no valid reason against it, and this brings it into line with previous knowledge of infective methods.

Of apparent exceptions to this rule only one seems worth mention. "The New York epidemic shows 50 per cent of the infants attacked were breast-fed, thus eliminating food-infection" (Sneeve, *Journal of the Minnesota Medical Assocition,* 1910). Such elimination, however, is entirely unwarranted for several reasons. Any baby is old enough to be given water or pap of multiple kinds, whether properly or not. It is also a common thing to give these tots a sweetened rag or kept-over bone or long exposed ham-rind to exercise their gums on and keep them quiet. And if this is not supplied, a smutty doll or much-used rattle or like soiled object is appropriated for this purpose. For that matter any old scrap within baby's reach is game to its mouth, and the more besmirched the goods the more prized for their flavor. Baby's habit of jamming everything handy into its mouth is proverbial —its favorite way of getting acquainted with the external world. And there is plenty of chance between jamming-times for infection of the ensalivated article by insects or other means. Furthermore, infants are relatively sessile, and hence far better targets for insects, whether flying or crawling, than are their foot-free elders. Then both mammillary and mammary troubles in the mother are well within range of suspicion, and only too frequent. The nursing-kid argument must have originated in a babyless region.

Canned goods have been suggested. While they certainly are not the exclusive source of polio, they may be more subject to invasion by organisms than are fresh foods.

Fruit has been suspected. And would readily account for the discrete occurrence of these cases, as *e. g.*, where children are eating together and only one suffers.

That fruit can serve as a carrier or as a culture-medium is indicated by group V of Sheppard's series *(New York State Journal of Medicine,* 1916, page 442), where five cases developed on the route of a Greek fruiterer. It is not quite certain, however, that either of these cases was due to tainted fruit.

Small fruit and berries, the more common summer product, do not appear to have been accused. Nor is it evident that fruit of any kind plays more than an occasional part in the spread.

That some particular epidemic of polio is not water- or milk- or fly-borne does not disprove such possibility for some other case or epidemic of polio, any more than it does in typhoid. One positive case or series suffices to upset all the negatives.

There is some evidence that milk occasionally serves as the conveyor of this infection. Wickham considered it "extremely probable that the milk conveyed the infection" in one small epidemic of his list. Lovett (1908) in his Massachusett experience found "evidence" that the infection "reaches the intestine in milk." This was partly because three-fourths of his 201 cases were users of raw milk, a ratio that is not very convincing. And Dingman, *New York State Journal of Medicine,* 1916, gives details of "A possibly milk-borne epidemic" of polio, of some extent.

That the virus of poliomyelitis is at times water-borne can be inferred as a natural sequence of various facts. This does not mean that the infection is always thus carried, or that, when so carried, other agencies may not coöperate in passing it along from polluted water to food or patient.

Dr. J. F. Terriberry of New York (LONG ISLAND MEDICAL JOURNAL, 1917, page 490) took the pains to work out a unique illustration of water-borne polio infection, about the most decisive piece of field-work on polio that has appeared. This was an epidemic that started in a small mining town (where previously it was a rarity) on Elk Creek in the mountains of western Pennsylvania. Here twelve cases of polio developed early in July. Two weeks later and nine miles down the same stream (described as "foul, stagnant and unwholesome") at the village of Ridgeway, thirty more cases of polio developed. And a week later a third nest started at Portland Mills, amounting to eight cases. This was nine miles below Ridgeway, on the same stream somewhat enlarged. Sewers were wanting. And the water supply was partly from wells, one of which at Ridgeway had in fact been the source of many cases of typhoid.

That water or sewage can acts a polio carrier accounts for two features of its spread, which have been regarded as of some importance.

One is the fact that the 1916 epidemic massed so heavily along the water-front. This is readily explained by the fact that when a case develops at any point the sewer from that place to its termination must soon be carrying the infective discharges. And the first place where this material becomes available for distribution is at the mouth of the sewer. Here the virus comes to the surface, and it naturally finds its chief patrons in that immediate neighborhood, whether it be by means of fleas, flies, rats or other distributing agency. Sewer systems in dwellings and sewer outlets into the bay are matters to receive the attention of polio-fighters.

Not unlike this is the far-famed country habit of polio. Wherever a rural case occurs, the nearest cess-pool or other open dump promptly becomes a reservoir of polio-bugs, ready to supply stock-cultures to all comers.

From these facts it is imperative to apply disinfection to material from bowel, stomach or bladder, the same as in cases of dysentery and typhoid. The same methods of control as are used in typhoid furnish the best basis, and can be adapted or developed to meet special needs.

As some five days elapsed on an average before cases were reported to the department, it is evident that such a simple matter as prevention of sewer-contamination must depend on the private physician and not on the official. This sewage factor may account in part for the inability of the department to check the spread and also for the marked tendency to block-occurrence.

There has been some question whether this infection causes the enteric disturbances, or vice versa. Each factor may be in play, any digestive upset favoring transit of the virus from the bowel to the general system. "Intestinal lesions are almost constant in poliomyelitis."

The So-Called Contact Theory of Infection

The term "personal contact," as used in this connection, has several meanings, and is correspondingly inexact. It was evidently introduced to displace the word, contagion, or the elder "air-borne" for the purpose of supporting certain ideas regarding infection. It is a most convenient term, for the user, because it can never be pinned down to any fixed meaning.

The most striking form of personal contact, yet not contact at all, is when a kick is administered—which can cause trouble fast enough, but hardly polio. Aside from this and hand-shaking (to which children are less devoted than are adults), the chief occasions for personal contact are in kissing and the various sexual acts. These can communicate diseases like syphilis. But, while it is imaginable that they could transmit polio, if the germs were at hand, the only acts that can well come in question here are kissing, fondling and rarely hand-shaking.

Under "contact" its advocates also include carriage of infection by clothing and even that of intermediaries. This is hardly personal contact, however. Nor, so far as I am aware ,is there any proof that the general or even occasional dissemination of polio has with certainty been traced to clothing, exclusive of vermin. Garments soiled by discharges are of course open to much the same suspicion as in typhoid.

Transmission by nasal secretions has been claimed, but never demonstrated. The fact that the virus has been found in the nose does not prove that it is thus communicated any more than do spirochetes in cases of nasal syphilis. If not contagious it can at most here be distributed only by kissing or by indirect agencies as in typhoid.

Experimentally it has been found that material carrying the virus can dry on objects, such as handkerchiefs used by these patients, and the germs retain their vitality. Of course it harms not unless detached, and taken up by some susceptible. From hospital experience there is not much chance of thus scattering the disease. But it emphasizes the necessity of sterilizing the excretions.

So-called "carriers" are classed here too. Practically, besides the nasal, this means the intestinal form. Here much the same must hold as in typhoid carriers. This may be the least easy menace to meet.

The idea that many town dwellers have been immunized by light attacks does not explain how they all had it, while the others waited for an epidemic to come along.

When examined therefore this "personal contact" business proves to be a blanket-term and not the usual method of dissemination here.

Dust can doubtless play a rôle as in typhoid. Pritchard, Keyse and Hill of Minnesota blame street and manure dust, and think an epidemic was controlled by watering thoroughfares. Stirring up these patients, carting them about, and shaking out their linen might also be expected to aid the spread of the distemper. But, as multiple cases in the same family are few, it does not appear that this method of spread plays much of a part.

The Relation of Travel to Infection

In the large epidemic it was surprising how frequently those children became affected who had been yanked away in the hope of escaping both infection and quarantine. A panic raged, born of despair. And dodges were soon learned to pass cops, road-guards and like obstructions. Excitement, hurry, broken and lost sleep, muss-ups, exposure, long totes here and there, auto-transit in the small night-hours, smothering under covers, food picked up any where, fragments of edibles from home,[9] all matters incident to hasty travel, and together a trying ordeal. These things *per se* may have had much to do with any excess among the transported. But infection must still have occurred somewhere, and, while this may have been before starting, there seemed to have been increased exposure incident to flight. Just travelling in an auto, stopping at the best inns, and eating at convenience was sufficient in a later case.

"Dissemination of the disease is usually along the lines of human travel," highways, railways, rivers. And the general hegira of youngsters seemed largely responsible for the great spread of the disease to other towns. As this exodus was increased by the quarantine and the system of alarm, the blame therefor should be placed where it belongs. Any great movement, at such a time, of children and their belongings should be discouraged by all reasonable means, and not increased by a show of force.

The effect of transporting acute cases about the city to one hospital and another is open to some question. Because the vehicle is called an ambulance does not materially modify the process.

Other Suggested Sources

These range all the way from poor potatoes to pigs. While ants, moths, millers, lady june and croton bugs, fire-flies, roaches, the sly book-worm, night-wanderers and other summer transients do not appear as yet to have achieved competitive standing.

Pets and domestic animals have been suspected. But if it is not contagious from person to person, then there is no ground to blame animals directly, if free from vermin and not handled.

House plants have been thought of. But they can be excluded for the same reason as animal pets.

But the case against insects leaves them open to question. "The curve of insect life runs closely parallel to the curve of poliomyelitis. The disease is essentially one of warm weather. The few exceptions are to be found very far north where the custom of living in huts in great filth and heat, and amid insect life is common. The environment in the very northern and cold climates must be thoroughly understood before we conclude that it contradicts our belief that we are dealing with a disease of warm weather" (D. G. Dixon, Pennsylvania Health Commissioner, in the *Journal of the American Medical Association,* 1917, volume 1, page 91.

No one insect is in present suspicion, unless still to some extent the horse-fly (against which Brues, *l. c.,* makes a logical presentment), or the green-fly *(cf.* Saunders, *Missouri State Medical Journal,* 1921, volume 76; also American Pediatric Society, 1922, meeting in Washington). Such special kinds of flies, by reason of their seasonal prevalence, may be the agent in epidemics, but can hardly account for sporadic cases at other times. House-flies, mosquitoes, bees, spiders, cimex, etc., have been thought of.

Insects can bedevil things in more ways than one. As filth habitues they may act as mere mechanical conveyors, tracking it wherever they alight, contaminating food, infecting bites or other wounds, etc. Or, they consume filth, and pass the infective organisms with their excretions. Then there are suctorials, true hosts, which incorporate the bugs into their organism, and pass them or their progeny over to you when they bite. Any of these are "cussed" so far as we are concerned.

As our epidemics subside before we have freezing weather, and as "the germ is not injured by freezing or drying," some other limiting factor must be in play, and seasonal insects come nearest to filling this bill.

The facts of the situation and a glance at the relative literature of recent years must incline the student to the view that there is a strong case against insects, notably certain flies, as a factor at times.

There are, therefore, again three lines of suspicion still open: the dejecta, foods and insects. This brings the matter within control by taking moderate care. All three agencies may play a rôle at one time or another, as in the case in typhoid, though not necessarily in an identical manner.

Individual Protection *(Personal Prophylaxis)*

In view of all this I have felt warranted, at time of anxiety, in advising parents as follows:

1. Do not have the child travel, or not beyond the ordinary rounds. Home life favors the preventive program.
2. Have the child avoid all food and drink except at home.
3. Give only freshly cooked food. Even milk and water to be sterilized.
4. Avoid all raw fruit.

5. Do not let the child fondle pets.
6. Protect both the child and its food from all insects and vermin.
7. Keep the child from kissing, fondling and hand-shaking.
8. Prevent all bathing and swimming in polluted water.
9. General cleanliness, and care of the laundry, with avoidance of public drinking cups and like utensils.
10. In case of the least digestive disturbance, have it attended to immediately.

Perhaps some of these forbids are not imperative. But they involve no hardships, and are intended to cover all sources of infection. These precautions may be but partially applicable to the prevention of sporadic cases, except so far as they are good general hygienic rules.

On a rational basis of advice, such as I hold this to be, it is practicable to soothe the excited and do a great service to all. So far anyway, though no one practitioner's experience can be all-sufficient, my advisees have escaped harm.

Some of our nurseries thought they escaped invasion by strict quarantine. Ruhräh & Mayer ("Poliomyelitis," 1917) say: "The disease rarely spreads in hospital wards to non-infected patients," and also that "Institutions for children seem to be singularly free from the disease," attributing it to lack of "contact with the outside world." This explanation of exemption in such cases may be true. But it is more rational to attribute their freedom to cleanliness, to exclusion of insects, and to care in the methods of feeding. For, in the Kings County Hospital cases there was no quarantine.

PUBLIC PREVENTION

Of course all cases should be promptly reported to the health authorities, though that formality does not solve matters.

As defervescence in these cases occurs early (none of the long weeks of typhoid), it can be concluded that the production and distribution of virus likewise drops. Subsidence of fever, intestinal disturbance and coated tongue marks the limit of the acute period in this regard. Because a few germs linger here and there about the system is no proof that they are still being distributed in epidemic quantities. Hence the greatest danger is early. If proliferation of infectious material is soon curtailed, it may be one factor in hospital immunity, the cases having passed the most infective stage before admission.

The main lines of action have been indicated—cleanliness, care of food and drink, exclusion of insects, boiling, burning or disinfecting of dejecta and contaminated articles.

In view of the average duration of a case before reports are at hand, even in our live city *(v. supra)*, and some are not seen by a physician at all, the chance to be of service is gone long before health officers get there. This affords an adequate explanation of their failure to accomplish anything. It is the same old story, no use in slamming the door after the horse is stolen.

If much is to be accomplished, therefore, it will have to be done by the private attendant. If he can recognize the trouble early, and if he is enabled to institute an immediate and suitable program, some and apparently great good can be accomplished. As to how this is to be met in cases without means, only a suggestion can be offered.

In times of threatening epidemic the department might finance a corps of nurses for this purpose, one of whom could be immediately secured by any physician who had a suspicious case. No time to wait for official inspection or corroboration .Effective local cleanliness and disinfection could thus be instituted at the earliest practical moment. This might not succeed fully, but it would at least be an infinite improvement on present possibilities. Practitioners will support a tactful appeal for coöperation. One epidemic up the river was apparently thus checked by enlisting the prompt activity of the physicians, though it was at about the season for it to subside automatically.

If the character of this problem is once correctly recognized, means will surely be devised to meet the requirements.

Bibliography

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Deaths from polio, all boroughs, with the year:

1912	70
1913	54
1914	34
1915	13
1916	2,448
1917	53
1916, Boro of Brooklyn	1,156
Cases of polio reported, 1916, in all Boroughs	9,023
1916	9,023
1916, New York State, including N. Y. C.	13,177

General Consideration of Radiotherapy*

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THIS paper does not aim to cover the whole field of X-ray and radium-therapy in a complete manner. It has been written with the idea of giving you an insight into why radiotherapy should act in the manner that it does and what it can accomplish. I shall probably make some claims for radiotherapy with which many of you will disagree. I have tried to be moderate and not over-estimate the benetfis. Neither radium nor X-ray cures every case, but the same is true of surgery and I feel that as you see the results as I have seen them, your enthusiasm will increase as mine has. I have not gone extensively into the technic of application as that varies so much in each individual case that it is difficult to cover in a paper on general consideration.

Radium is an element having a definite atomic weight of 226 and definite physical and chemical properties. It differs from most other elements in having one property which they do not possess, namely, radioactivity. This radioactivity results in giving off three kinds of rays, Alpha, Beta and Gamma, each having different composition and action. The Alpha rays are actual helium atoms shot out from the radium at an average velocity of eleven thousand miles per second and are utilized principally in luminous watch dials, etc. They are entirely screened out by a sheet of ordinary writing paper and on account of their slight penetrability, they have no action therapeutically.

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The Beta rays are negative electrons having the velocity of light of about 186,000 miles per second. As for volume, they are about one hundred times less than the Alpha rays while their penetrability is about one hundred times greater. It takes two mm. of lead to completely absorb all the Beta rays. These rays are used therapeutically in superficial lesions which are not thicker than three mm., or about one-eighth of an inch.

The most penetrating rays from radium are the Gamma rays. They are not corpuscular rays as are the Alphas and Betas, but are etherial waves and except for their shorter wave lengths, are not essentially different from X-rays. These rays are most used therapeutically and except for their penetrability and ease of application have exactly the same action as X-rays.

The action of all rays, whether it be radium or X-ray, therapeutically may be divided into stimulation, inhibition and destruction, according to the dose administered. These various effects are made use of in therapy according to the results desired. For instance, in treating cavernous angiomas with radium, very small doses are given which stimulate the growth of fibrous tissue and endothelium and the lumen of the vessels is gradually occluded. As an example of inhibition, we may use the X-ray in hyperthyroidism. In this condition a dose is given sufficient to inhibit the active secretion of the gland and thereby relieve the toxic symptoms. We use the destructive doses of either X-ray or radium in carcinoma.

Some tissues, more than others, are susceptible to action of X-ray or radium, and it is for this reason that we get results in diseased tissue and do not harm the surrounding normal tissue. The more nearly a cell approaches the embryonic type, the more susceptible it is. In other words a cancer cell which much more resembles embryonic structure than normal tissue will be destroyed and its place taken by fibrous tissue, while the surrounding normal tissue is very little changed. Also specialized cells as the thyroid, testicle, ovaries and lymphoid tissue which are actively secreting or undergoing rapid growth are easily influenced by the rays and it is for this reason that we can give a dose of rays to a goitre sufficient to inhibit secretion but not show any effect on the other tissue in the neck. Ewing says, "in general, the structural character which determines susceptibility to radiation are a cellular character; an undifferentiated form of cell; rapid growth with an abundance of mitoses; vascularity, especially when due to an abundance of delicate capillaries, and absence of much intercullar substance. On the other hand, tumors prove relatively insusceptible when the cells are differentiated and adult in type; when they grow slowly and their mitoses are few; when the blood supply is through well-formed adult vessels; and when there is much intercellular substance." With the advent of the Coolidge tube and close circuit transformer, we are able to govern our dose of X-rays so that the danger of burns is as remote as the danger of hemorrhage in the hands of a skillful surgeon. This accuracy dosage is obtained in all modern-make of machines, except dental and portable units which are suitable for pictures but entirely inadequate, unreliable and even dangerous for therapeutic purposes.

After a tissue has been rayed the effects are not noticed immediately, but in from five to seven days the reaction begins, the degree depending on the strength of the treatment. Take for example the treatment of rodent ulcer: at the time of treatment, with either X-ray or radium, there is no sensation; but in about five days the part begins to swell and gets red. There is a slight burning sensation similar to sunburn and there is usually scab formation. This state lasts for about one week and then comes the stage of retrogression and healing which takes place under the scab; so that, at the end of four of five weeks healing is complete with a soft scar which in another two weeks fades to the color of normal skin. If, at this time, the growth is not completely gone, the treatment is repeated. Sometimes in large growths many applications are necessary.

There are three forms of applicators in common use containing radium. The first form of applicator contains the radium spread evenly over the surface in the form of a glaze and is used principally in skin lesions and non-malignant lesions of the mucous membranes, such as leukoplakia. The second form is a glass tube inclosed in silver or brass tubes. These are used wherever massive doses are needed, in such cases as cancer of the cervix. The third and most useful means is a hollow needle containing the radium, which is buried in the diseased tissue.

The decision as to whether X-ray, radium, or a combination of the two, is to be used, is, in most cases, a matter entirely of area to be treated, depth of the lesion, and position of the lesion. When a large area is to be treated, X-ray is the method of choice. When deep lesions are to be treated, it depends on their location; when in the pelvis, radium is chosen, frequently combined with X-ray. In the chest, X-ray is more frequently used. When we have a thick lesion of the skin, or one accessible to the skin, a radium needle inserted in the growth is the ideal method.

The specific conditions where radiotherapy is indicated may be divided roughly into two great classes, non-malignant and malignant. Of these skin conditions which are non-malignant, angiomas and vascular nevi except port wine stains, respond to radium therapy. The treatments are spread over a year or more and are given from one to four months apart. The cosmetic results in the majority of cases are superior to those obtained by any other method of treatment.

Keloids and hypertrophic scars soften and become painless under radium treatment, they flatten out and become even with the surrounding skin surface. As a result in these cases, contractions lessen and the disability decreases. In these conditions no other treatment can obtain anything like as good results as are gotten by radiotherapy.

In acne, the method of choice is X-ray, and to this the lesions, even of long duration, yield with very satisfactory results. The number of treatments necessary is usually eight to ten. It does not eliminate the scars already formed but it prevents new pustules and cures the disease. Hazen in the Archives of Dermatology reports one hundred and seventy cases treated in which there were only seven failures to effect a cure.

In chronic eczema, with scaling and fissures, we are able with X-ray to heal the cracks and stop the burning frequently in one treatment. Chronic patches of psoriasis yield well to X-ray, but in the majority of cases radiotherapy is a last resort rather than the method of choice.

In pruritus, we are usually able to relieve the itching quicker with X-ray than in any other manner. In ring worm of the scalp and beard, we have a method of choice in an epilating dose of X-ray.

This list does not include many of the rare skin lesions, such as lupus erythematosis and vulgaris, mycosis fungoids, etc., in which radiotherapy is the best method of treatment, but in general the commoner diseases are covered.

In hyperthyroidism, either X-ray or radium may be used with excellent results. The metabolic rate is lowered. The pulse is slowed and the nervous symptoms disappear. Even Crile, who is one of the authorities on surgery of the thyroid, says in a recent article that there are only two methods of treatment, besides physiological rest, worthy of consideration, namely surgery and roentgen ray. In many severe cases, radiotherapy may be preliminary to operative precedure. It is claimed by some surgeons that the results obtained by radiotherapy are not as permanent as those obtained by surgery, particularly as a small percentage of cases treated by radiotherapy later come to operation, but inasmuch as the ray treatment is a comparatively simple procedure and thyroidectomy is a major operation, certainly radiotherapy should be tried in all suitable cases.

Seymour gives a summary of the advantages of radiotherapy by saying: First, there are no fatalities; second, there is no resulting scar; third, it does not interfere with the patient's occupation; fourth, it is painless and causes very little inconvenience to the patient; fifth, if unsuccessful an operation may be performed with less work because of the action of the roentgen ray.

In tubercular glands of the neck, the disfiguring scars of a complete dissection may be avoided by radiotherapy. If marked fiuctuation is present, a simple puncture is indicated to drain the pus and then either X-ray or radium to complete the cure.

Some radiologists insist that all tonsils should be rayed rather than removed. This seems a little too radical at this time when we know the excellent results obtained by tonsilectomy. Certainly, however, in any case where operation is contra-indicated on account of being bleeders or because of a heart lesion or anything else, radiotherapy will empty out the crypts and lessen infection so that the diseased tonsil becomes simply a fibrous nodule and gives no further trouble. Some laryngologists refuse to remove tonsils, when tubercular glands are present unless the glands are rayed, on account of the danger of a generalized tubercular infection from the opening of the lymph channels by the operative procedure.

In several non-malignant gynecological conditions radiotherapy obtains its most brilliant results. In idiopathic hemorrhage, radium is practically a specific. If the patient is of a child-bearing age, the treatment is of short duration and frequently has to be repeated, as we desire to stop the profuse flow without effecting a complete artificial menopause. Great care must be exercised or complete sterilization and menopause will result.

Radium should not be used if there has been any inflammation in the pelvis. In menorrhagia, the treatment should be given immediately after a period and the cervix should be dialated and a curretage done for the purpose of histological examination to rule out malignancy. The radium is placed inside the uterus with suitable screening to protect the mucosa from the Beta rays. The first period after the treatment is sometimes only slightly affected, but the second is markedly decreased and thereafter they are either lessened or completely stopped according to the dose administered.

Bleeding fibroids yield well to radium therapy. There are, however, very definite contra-indications. Pedunculated fibroids, submucous fibroids protruding into the lumen of the cervix, intraligamentous fibroids and degenerating fibroids should never be rayed. A fibroid not producing hemorrhage, whose clinical symptoms are those of pressure or those in which the tumor is so placed that it distorts the uterine cavity so that the capsule containing the radium cannot be introduced into fundus, are unsuitable for radium therapy. A fibroid complicated by an ovarian cyst, a neoplasm of the adenexia, a pelvic inflammation past or present, or a fibroid larger than a four months' pregnancy should be operated. Likewise, a fibroid in a woman under thirty-five should be operated because the dose of rays sufficient to cure a fibroid will cause a complete sterilization and an artificial menopause.

The symptoms to be expected by a patient who has to undergo intra-uterine therapy with radium for either menorrhagia or fibroids are these: nausea and vomiting occur frequently during the time that the radium is in the uterine canal. A leucorrhoea lasting about six weeks occurs usually after intra-uterine therapy. Pain is rarely present after treatment unless it had been present previously, but once in a while a patient complains of a sense of weight in the lower abdomen for two or three weeks. Nervous symptoms occur in about the same proportion of cases as after surgery and are of no greater importance. These, then, are the discomforts to be expected during the first six weeks after radium therapy. After this time, there are no subjective symptoms, except those of the menopause. As to the dangers of radiotherapy, in properly selected cases, they are no greater than a curetage and the treatment has been used in such a large number of cases that we can assure the patient that the results will be equal or superior to surgery. Taussig collected 1099 cases of fibroid reported in the current literature which had been treated with either X-ray or radium and found that a symptomatic cure had been attained in all but forty-eight cases, giving a percentage of cure of 95.5 per cent.

In malignancy, the rodent ulcer or more properly the basal cell epithelioma is a borderline condition between a malignant epithelioma and a benign papiloma. This is the common skin cancer that usually occurs on the face, arms and trunk. It is in this condition that radium has become the ideal method of treatment. X-ray may be used but there seems to be a slightly larger percentage of recurrences than with radium. If the lesion is thin, less than 3 mm., the Beta rays are used; if thicker, the radium is separated from the growth and the Gamma rays are used over a longer period of time.

In prickle cell epithelioma, synonyms for which are squamous cell or epidermoid carcinoma, we have one of the most malignant types of tumor. This type of cancer is most common on the mucous membranes, at the muco-cutaneous junctions and in those occurring on the hands and especially those occurring following X-ray dermatitis. In these cases there is no one type of treatment which applies to all. They early metastisize and have a marked tendency to local recurrence, even after all the local lesion is apparently entirely removed. Radium should be used on the local lesion, either in the form of needles through the growth or surface applications in suitable containers. The draining lymph glands should be heavily rayed with either X-ray or radium and then it is my personal opinion that the local lesion should be removed by surgery whenever possible. Subsequent raying of the scar and glands should be repeated a number of times to prevent recurrences.

In cancer of the breast; all cases should be rayed with X-ray from one to two weeks before operation. At this time, the diseased breast, the normal breast, the axillary, supra and subclavicular lymph glands on both sides and the epigastrium should be rayed. Boggs, quoting Handley says, "the liver is the seat of the metastases more frequently than any other organ. This is attributed to the cancerous dissemination along the deep lymphatics of the fascia of the chest wall to the epigastrium and to the umbilicus, whence these cells follow the subserous lymphatics to become deposited either on the surface of the liver, or are conveyed along the lymphatics of the falciform ligament to the portal glands. If these conclusions are correct, heavy raying of the epigastrium is very important and should never be omitted."

The purpose of the preliminary raying is to sclerose and seal up the lymph channels leading from the tumor so as to prevent metastases occurring during the handling necessary to radical operation. The action of the rays is produced by swelling of the endothelium lining, the lymph vessels, as well as the action on the cancer cells themselves whose viability is impaired. There is also an infiltration around the lymph vessels of round cells which further compresses them and as a result of this combination of effects the lumen of the lymph vessels is greatly narrowed and metastasis largely prevented. Quick, of the General Memorial Hospital, sums up the advantages of pre-operative raying of breast carcinoma by saying, "Our study of the material removed at operation shows that the surgeon has a less malignant type of tumor to deal with; the neoplastic cells show marked degenerative changes, and the replacement of tumor tissue by fibrous tissue indicates a reparative process. The atrophy of the lymphatic channels aids materially in blocking dissemination of the disease. Many cases at first belonging to the inoperable class are rendered operable.

From one to two weeks after the preliminary raying there should be a complete amputation with axillary dissection. I might add here that neither X-ray nor radium should ever be used within seven to ten days after iodine or other irritants have been applied to the skin. Neither should these agents be applied following radiation for the same length of time. This is always to be borne in mind when considering pre-operative or post-operative radiotherapy.

After removal of the breast, four weeks after the first raying, the scar, axilla, mediastinum, and epigastrium should receive another raying. These post-operative rayings should be continued once a month for several months in order that recurrences may be prevented. By this method many writers have reduced their recurrences to a marked degree. Hewitt, in the Grace Hospital Bulletin says, that at least 15 per cent better results may be expected. Boggs, of Pittsburgh, says that from 25 per cent to 50 per cent of the recurrences are prevented.

In inoperable cancer of the breast, the breast should be rayed as above, and in two or three weeks radium needles should be buried in the tumor mass and in any metastatic glands. Many of these cases after this treatment become operable on account of the shrinkage of the tumor itself and by the fixation becoming less marked.

In cancer of the uterus, there is some dispute as to the dividing line between surgery, radiotherapy or a combination of the two. All are agreed that cancer of the fundus should always be operated even when fairly advanced. In cancer of the cervix, there is a wide difference of opinion as to the best method of treatment. Some gynecologists prefer to operate all cancers of the cervix, even when moderately advanced. Others prefer to use radium and then operate. Others still prefer the Percy cautery method, either without or combined with radiotherapy. While a fourth group, which I think is increasing, depend mainly on radium, using the cautery only sufficiently to get to the base of the cervical growth if it be fungating. Also a few men are combining X-ray externally with the radium internally. In the more advanced cases there is a more unanimous opinion that radium frequently combined with the cautery or electro-coagulation is the method of choice. In cases in which there is involvement of either the bladder or rectum, there is again a difference of opinion whether radium should ever be used on account of the danger of fistula formation.

Certainly in most cases, there is a favorable response to radium. But whether the opinion will be borne out by future observation that all cases, even the very earliest cancers of the cervix, should be treated by radium, is as yet undecided. There is a small group of cases in which radium, instead of checking the growth, seems either to have no effect or may even appear to stimulate a more rapid growth of the disease.

Many sarcomas yield readily to radiotherapy; particularly is this true in lymphosarcoma and giant cell sarcomas; osteo-sarcomas, spindle and round cell sarcomas moderately and melano-sarcomas very poorly. In any of these, except melano-sarcoma, it is advisable to combine surgical removal when possible with radiotherapy.

These, then are some of the diseases in which radiotherapy may be expected to give results. This paper is incomplete in many details and in most instances, I have touched only a few of the points that seemed important. The field is so broad that many important diseases such as leukemias, Hodgkins disease, vernal catarrh, etc., have not even been mentioned. Radiotherapy is in its infancy but it has come to stay, as results may be accomplished with X-ray which can be obtained in no other manner. They do not fulfil the lay idea of a cancer cure but they are adjuncts in a physician's armamentarium, and as such, are of great use in many cases.

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Symptomatology of Fractures of the Skull and Spine*

Arthur Conklin Brush, M. D.

Brooklyn, N. Y.

IT HAS long been taught that the importance of fractures of the skull and spine depend not on the extent of damage to the bones as much as they do to the extent of the injury to the brain or cord, their membranes, blood vessels and nerves, either as a result of the force which produced the fracture or by depressed bone. Fractures then of themselves are not dangerous to life and derive their importance from two factors, infection and damage to the cranial and spinal contents; or in the words of Von Bergman "no one ever died of a fracture of the skull."

I will not take up the time of such a society as this in discussing the ordinary signs of the injury to the bone but proceed to those due to injury to the brain and spine.

As a rule the patient after the receipt of a head injury is unconscious from the occurrence of cerebral concussion or contusion with its resulting edema and this is frequently complicated by that of alcohol. During this period of coma the extent of the injury to the brain is often impossible. Coma, however, developing after the receipt of the injury and if preceded by such symptoms as hemisensory disturbances or aphasia is indicative of a damage to the cerebral blood vessels and calls for immediate operative procedures. Fortunately the hemorrhage is usually from the meningeal artery and operation is usually successful. In this condition we usually find a flacid paralysis of the opposite of the body with loss of reflexes and that the chest movements of the two sides are not synchronous but the paralysed follows that of the non-paralyzed side. If the hemorrhage is not subdural as in that from the meningeal arteries but in the arachnoid cavity; if large in amount it will present the same clinical picture but when small and due to brain contusion or local edematus swelling it may cause convulsive movements in the paralyzed parts or convulsive seizures without loss of power. It must be remembered that the hemorrhage may not be at the apparent site of the fracture but in some other part as the opposite side from the contra-coupe or extension of the fracture. This was well shown in a man in the alcoholic wards of the Kings County Hospital who had a depressed fracture in the left parietal region with a left hemiplegia. Operation showed that the fracture extended around the back of the skull and ruptured the right posterior meningeal. The pupils are as a rule unequal and may be contracted or dilated on the paralyzed side. Pressure causing dilitation and irritation contraction; and therefore can not be taken as a positive sign of the nature of the injury. Choke disc at one time considered as a sign of meningeal hemorrhage but it is now taught that it is due to the cerebral edema and therefore is not of diagnostic importance. Blood in the spinal fluid is indicative of injury to the meninges and not of fracture and occurs in brain contusions with or without fracture. The Xray, also though it shows the existence of the fracture, is of little use in determining the whole nature of the injury especially of depressed bone; as when it is taken parallel to a depressed fragment it may fail to show it. Fractures injuring the cerebral sinuses unfortunately are less easy to diagnose as in them we have only the evidence of increasing brain pressure and in compound cases the escape of veinous blood. The occurrence of a local edema from brain contusion with its swelling after the injury may simulate a meningeal hemorrhage, as was the case of a man seen in the Kings County Hospital, in whom after a head injury developed an aphasia, followed by increasing coma with right hemispasma and hemiplegia; and in whom on operation nothing was found besides an edematous swelling from which he made a good recovery.

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*Read before the Brooklyn Surgical Society on November 4, 1920.

After the coma has disappeared the nature and extent of the damage to the brain can be more clearly determined as then we can recognize symptoms arising from irritation or destruction of the brain cortex.

Disturbances in equilibrium and walking indicate a lesion in the first or second frontal convolutions, the fronto-cerebellar tract or the cerebellum; and it has lately been shown by Tilney that local pareses due to loss of coördination of the muscular groups occurs from injury to the cerebellar cortex. Loss of power in the tongue, palate, lips and cheeks indicates a lesion in the lower fourth of the anterior frontal convolution but on account of the bi-lateral representation of these organs in the brain, such paralysis is never complete unless both sides are injured in which case we have paralysis of the throat and dysartheria. Involvement of the eye muscles indicates a lesion in the first and second frontal convolutions. Involvement of the muscles of the head and neck is due to a lesion of the lower third of the anterior central convolution; of the upper extremity to one in the middle third; and of the lower to one in the upper third and paracentral lobe. The muscles of the trunk on account of their bilateral representation in the brain are never completely paralyzed in unilateral lesions but their action may be altered as in the disurbance of respiratory movement already mentioned. Disturbances of speech in right-handed persons indicate a lesion on the left side of the brain; and motor aphasia is found in such lesions involving the posterior two-thirds and possibly the middle third of the left middle frontal convolution, the central and lower part of the island of Reil. Amnesic aphasia also indicates a lesion of the posterior half of the temporal lobe and adjacent occipital, while disturbances in writing, reading and recalling words to one in the third temporal. Deep lesions of the left angular gyrus also cause difficulty in reading and recalling words. Disturbances of sensation especially for posture, place and space indicate a lesion of the posterior central convolution whose centers are arranged in the same manner as the motor ones of the anterior; but these also extend to the anterior convolution while those of pain and touch extend backwards to the superior parietal. Loss of power to co-ordinate our memories for sensation and motion occurs in lesions of the supra-marginal gyrus and upper parietal; and irritative turning of the eyes to the side opposite to the lesion or paralytic direction towards the side of the lesion, to one in the angular gyrus. Deafness is found in lesions of the superior temporal convolution but only when the lesion is bilateral. Loss of smell indicates a lesion of the base of the frontal lobe or of the olfactory lobe. Loss of power to understand visual impressions especially for their relation to space indicates a lesion of the convexity of the occipital lobe, while hemiopia or quatre blindness one on its median surface.

Injures to the cord on account of its anatomy and functions are more serious than similar ones in the brain; and even simple edema due to contusions from temporary dislocation may be followed by the degenerative changes known as chronic myalitis. The cord may be injured by displaced bone, usually the bodies and rarely the arches, or displaced cartilage, or by hemorrhage into the membranes or substance of the cord, but it is as yet impossible for us to determine beyond the site of the lesion from the clinical picture the nature of the lesion. All we can determine without surgical inspection is that the functions of the cord are completely or partially affected. Even the Xray can only show whether the bone is displaced or not and tells us nothing as to the real damage to the cord. It is only by waiting for some weeks until the edema has subsided that we can determine the extent of the damage to the cord; and long duration without improvement indicates a grave and latal lesion.

Total interruption of the functions of the cord is shown by a complete flacid paralysis without irritative motor symptoms except at the upper border of the paralyzed area; loss of reflexes, but these may return and then disappear after some weeks; loss of sensation with radiating pains and hyperaesthesia at the upper border of the anaesthetic area; paralysis of the bladder and rectum; and trophic disturbances such as the formation of blebs and bed sores.

Partial interruption of the functions of the cord shows itself by a paralysis though total at first soon becoming incomplete and most marked in the lower extremities; muscular twitching and contractures in the paralyzed muscles; increase in the tendon reflexes with the occurrence of abnormal ones, as ankle clonus and Babinski; loss of sensation whose area does not extend as high as that of the motor paralysis and is associated with radiating pains and hyperaesthesias in the anaesthetic areas; and bladder or rectal symptoms may be absent or in place of paralysis we have tenesmus. A pure Brown-Sequard paralysis is practically never seen in injury to the cord as the edema complicates the picture by causing bilateral symptoms. It is evident then that the clinical picture is not of much value in determining the nature of the lesion; and after waiting some weeks for the edema to subside and increase in which no improvement occurs, the surgeon is justified in opening the cord wtih the hope that he can find some condition which can be removed and thus restore partially or completely the lost function.

Physiological Electrotherapy in Muscle Paralysis*

ALBERT C. GEYSER, M. D.
New York City

Your former President, Dr. Bauer, requested me to address the members of this society on the subject of electro-therapy in muscle paralysis. In complying with this request I shall bear in mind the fact that this society is not made up of specialists.

To begin with, then, let me undeceive you upon an all too common error, namely that electricity cures anything; on the contrary, electricity never has, and never can cure anything. *To cure a disease, to restore a lost function of the human body is a natural, physiological process inherent within the forces of the patient's economy.* This power or force by which a patient is enabled to overcome a disease process may lie dormant, may not be able to exert itself,—yet, there is no other known agent or means which can be substituted for it. On the other hand, we have many agents, which, when applied to the human body cause certain *physiological responses.* When such agents bring forth the *proper physiological response* necessary in any particular case, then such an agent becomes a *therapeutic measure. It is never the agent, but the physiological response by living cells which determines the therapeutic value in a given case.* When the agent electricity is employed, it may, if rightfully applied, become a therapeutic measure. *Electrotherapy is understood by few, misunderstood by many and underestimated by everybody.*

CENTRAL AND PERIPHERAL MUSCLE PARALYSIS

To refresh your memory let me draw upon the blackboard a transverse section of the motor cortical area of the brain. From the corona radiata the motor fibres pass to form a common bundle while passing through the internal capsule. Immediately after emerging from the capsule most of these fibres decussate to pass down upon the opposite in the spinal cord; only a few fibres remain to pass down the same side of the cord. Both of these fibres pass down into the spinal cord to their respective levels, and end up in a terminal arborization consisting of six or more branches.

When such a motor fibre has arrived at its specific level, it meets with a protoplasmic prolongation of one of the large multipolar motor cells of the anterior horn of the spinal cord. This protoplasmic prolongation of the motor cell ends in a similar branching as the motor fibre from above; these two branchings, without direct anatomical contiguity, mix freely one with the other, similar to the teeth in a cogwheel. From the large multipolar motor cell is given off the axis cylinder which becomes the true motor nerve, ending up in the end plates distributed to the various sarcolemmae making up the muscle bundle. We have then two distinct sets of nerve fibres—the one commencing from cells located in the motor area of the brain and ending in the terminal branching as the various levels of the cord, and the axis cylinder beginning at the multipolar motor cell and ending in the end plates within the muscle which this particular nerve happens to supply. The first is known as *the central or upper neuron,* the second as *the lower or peripheral neuron.* Every motor neuron starts from a motor cell either cerebral (central) or spinal (peripheral) and ends either with a terminal arborization in the spine or the end plates in a muscle. In order to produce a *normal physiological* muscle contraction, a cerebral impulse must be started in the brain cell, transmitted to the end brush; it is then taken up by the motor cell in the cord which transforms the cerebral impulse into muscle activity. All motor impulses must start from the center and travel to the periphery. These motor cells, cerebral and spinal, besides generating motor impulses to be conducted along the nerve fibres, perform another and more important function. Each cell acts as a *trophic center* for its particular nerve fiber; in addition to this, the lower or *peripheral neuron controls* the tone and the *nutrition* of the muscle which it supplies. If the cerebral motor cells become diseased, not only are there no impulses generated, but the central fiber undergoes a descending degeneration, because its nutrition which is under the control of diseased cell, is cut off. *Since no impulses are generated* and since the fibres degenerate, the lower neuron cannot perform its function and *we are dealing with a muscle paralysis of central origin.* Since, however, the lower or peripheral neuron is intact, and since the cell in the cord from which this nerve takes origin also controls the nutrition of the muscle, it will readily be seen why *there is no atrophy* or wasting *during a central muscle paralysis.* On the other hand, if the injury or disease is located in any part of the *peripheral neuron,* though impulses from above arrive there, they cannot be interpreted, consequently not executed. We are dealing then with a *peripheral muscle paralysis.* Since now the *motor cell in the cord also acts as the trophic center* for the muscle, it follows that as soon *as the nutrient center fails to function there must be immediate and marked atrophy or muscle wasting.* A good example of *a central paralysis is cerebral apoplexy or hemoplegia* while *anterior poliomyelitis* represents the *peripheral paralysis.*

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*Read before the Washington Heights Medical Society.

I have selected these two diseases because they lend themselves best for therapeutic differentiation. While in both of these lesions the resulting muscle paralysis is the most important consideration, the therapeutic measure indicated in the one is diametrically contraindicated in the other.

PHYSIOLOGICAL THERAPY

I cannot be too emphatic in making the statement that any therapeutic measure which does not call forth or is *not in harmony with physiological responses* is, to say the least, *of questionable value. A patient is only as sick as his physiological functions differ from the normal.* In cerebral apoplexy we are dealing with a blood clot somewhere between the cororna radiata and the decussation in the pons. This blood clot causes pressure, preventing the generation of motor impulses; the result is a one-sided muscle paralysis without atrophy. Our first duty is to remove the cause. In this case, as far as my experience warrants, there is nothing better than the intravenous injection of sodium iodide 2 grams (31 grains) to 20 mills of a sterile water solution. This dose should be injected daily for several weeks, later, on alternate days. I have never seen a contra-indication. If the solutions are proper and the technic correct, when iodism does appear, at the third or fourth injection, it usually subsides permanently —the exception proves the rule. While the intravenous injections are being given, the affected muscles should be exercised by passing through the motor nerve a faradic current. Each affected muscle or muscle group should be treated at least once daily for twenty to thirty minutes. The positive pole of a faradic apparatus is placed over the spinal origin of the nerve while the negative rests upon the paralized muscles. The faradic current must be so constructed as to be able to deliver *an almost unipolar current* when tested with the oscilloscope; the current must start at zero, gradually increase in strength until the desired contraction is reached, then the current must be gradually decreased to zero again. After a pause at least equalling the time of contraction and relaxation, the whole precedure is repeated. The individual contractions should average about fifteen per minute. Since a great number of muscles are involved and since they differ from each other in size an,d consequently in contractive power, the apparatus must have at least six negative poles. Each pole or conducting wire passes through a separate rheostat, so that every gradation of current strength, according to the size of the muscle may be obtainable. The earlier these two measures are instituted after the acute onset, the quicker and the surer are the results. Do not expect to obtain these results with the ordinary faradic apparatus; it is incapable of furnishing a physiological response, therefore contraindicated. For similar reasons the galvanic current is contra-indicated in these cases.

POLIOMYELITIS

In this disease we have a virus with a predeliction for the neuroglia of the spinal cord, especially the gray matter of the anterior horns. This virus, combining with the cord substance, produces an inflammatory process resulting in a fibrosis in and around the large multipolar motor cells in the cord. This fibrosis crowds or annihilates the motor cells interfering with their function, which results in a peripheral muscle paralysis. Since the motor cells in the cord control the muscle's nutrition, the muscle undergoes early and rapid degeneration or atrophy. What is the physiological indication for treatment? As before, our first duty is to remove the cause of the paralysis which is the fibrosis in the cord. Fibrous tissue is best absorbed by heat. The diathermic (heating through) current is a current which as the name implies heats tissue through and through. One pole, it matters not which, is applied over the lesion in the spine, the other is attached to the involved extremity. As the current passes between these two points the spinal canal, being a bony structure, becomes heated. This heat is conducted to the spinal cord where capillary dilatation takes place, the result of which is the absorption of the excess of fibrous material. As soon as the heat with the increased hyperemia in the cord substance has absorbed some of the fibrous material, either pre-existing embryonic cells are developed or the cells lying at higher and lower levels through the collateral nerve fibres re-establish contact with the axis cylinder of a motor nerve. The nerve contact will be evidenced by the contraction responses to a faradic current. *As long as the paralyzed muscles are cut off from their trophic center, so long are they incapable of receiving adequate nutrition. Such muscles must not be treated with the faradic or any other current which causes contractions. To cause a muscle to perform its function without supplying adequate nutrition is unphysiologic—therefore, contra-indicated.* In poliomyelitis, all treatment directed to the extremities is worse than useless, *the lesion,* which is the cause, *is located in the spinal cord, the peripheral paralysis is the unavoidable consequence.* Remove the cause and the consequence will disappear.

I am greatly indebted to the Wappler Electric Company of this city for having sent here all these various machines with which we will now demonstrate the practical workings of these various currents.

"Our Memories"

JOHN H. R. BARRY, M. D.
Long Island City, N. Y.

WHO can doubt the exceeding pleasure and keen delight it is to meet our brothers of St. John's at this auspicious and pleasant function?

For it revives a custom unhappily postponed for several years, when we were wont to gather annually, as we do tonight, and meet in social concourse.

It is true that we miss the artificial stimulus to exuberance of spirits of those "thrice happy days" but we shall miss, as well, the regrets of a "bad morning after a weird night" unless we violate the law and no one could justly accuse the doctors of being law violators.

Prohibition figures are amazing in their information as to the small percentage of doctors who have sought licenses to *use* as against the permit to *prescribe* alcohol, but they may also be illuminating, when prepared, as to the large number of patients who have *moved* lately from the given addresses of prescriptions.

I have said what a delight it was to meet one another.

I ask you what keener delight can one feel than to know that when the trials, the anxieties, the indispensable disappointments, and the inevitable friendly rivalries of the work-a-day world seek surcease in relaxation, the real legacies and heritages of life are measured by the number of our sincere and faithful brothers, by their handclasps of affection, by their badges of loyalty and by their safe and reliable assurances of unselfish devotion and unalloyed brotherhood.

And I hope I may not be accused of flattery when I say the most faithful and constant friends of my later life are numbered in this coterie of medical brethren (past and present) which have, and do *now* compose this fraternity of St. John's. I have often thought and said that nowhere was there better morale, more unselfish understanding, more ardent loyalty and unanimity than among you, my colleagues, in our common field of human sympathy and suffering.

I may be speaking to you tonight as one far afield, as one who has no proper place in your present day glories and notable achievements but the old love for all that you have meant to me, throughout the most significant years of my life, prompts me to view these glories with an eye undimmed by distance save for the shadows of disappointment and the mists of regret that I am no longer an active moving spirit in your important and far-reaching concerns.

Sadness and sorrow and memories are no rightful parts of festive occasions, but the temptation is irresistible for one of the old school to think, at least tonight, of bygone events; to conjure with the names of the cradlers of your infancy as a medical board, and to dwell briefly upon the remarkable changes which a few decades have brought.

I would fain transport a Marshall to the heyday of a Winters, and have him acknowledge the handicap of an infant formula without a study of the vitamines; I would take the house physician on a home bedside study of meningitis, as our glib-tongued dear lamented Jno. Francis Burns is said to have done in the olden days until the former was so dizzy with information that he did not well know whether he was going from or coming back to the hospital—and this without the help of spinal puncture, serology or ventricular tapping.

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*St. John's Hospital Medical Board Banquet, Yale Club, April 19, 1922.

I would ask you to picture the helplessness of Joe Bainton's dangling stethoscope, without being supplied with Boettiger's ceaseless grind of high poly count reports, in the one hand, and Wasserman and pneumonia types, in the other; I would call upon Keller and Brennan to note, that, whilst there may be no known new methods of breaking limbs, they cannot properly be repaired today without a Hawley table; and I would have them attest that Forbes and Lavelle are their Veronal and Luminol powders against the nightmare of damage suits.

I would dare Hallinan to forego a preliminary bath of odine to an abdominal incision, or to pack his wound with iodoform gauze. Of caurse, Kelly could recite thirty-one new reasons for the uselessness of tonsils, but emphasize none more perhaps than their avenues for rheumatic infection.

Frey would be helpless, as we of old, in safeguarding the lives of "his bravest" without the gas mask; and Mencken and McMahon would not be content with the skilful hand of a Burnett in a version, or his tactfulness with forceps, if they were forced to forswear the alluring vista and opportunities of *surgical* obstetrics, intravenous corpora lutea and the highly-prized, but properly limited, Caeserean.

McSweeney will tell you that industrial hygiene has improved the efficiency of the telephone operators, but possibly this will be one of the hardest boasts to believe.

Jno. Cooney by cystoscopy will make sure for us which kidney we must forfeit if, God forbid, we must lose either.

I do not know the blood pressure enthusiast, unless it is Barker or McGoldrick, but surely there is some one—perhaps it is Fincke or Stein, who is viewing it with rose-colered glasses and worshipping at the shrine of its importance.

The public-health worker—and the speaker has no rival—will justly enthuse over Schick tests, child hygiene control, climatic hospitalization of the T. B. open-air classes for malnutrition, physical examination and permit of the food-handler, as the contribution of the later years to the progress of the times.

The redoubtable Corbett has lately said publicly that he was born a few decades too soon. And to make a crude comparison with our honored profession, I suppose I might confess to feeling the same way.

I believe I could have fancied "carrying on" with you in these group-medicine days. I know I have found post-war fees more sensible than pre-war ones; and progress has made for conveniences in service and lightened considerably the drudgeries and hardships of medical life.

Of course, I would not think of exulting were I among you at the time when autumn had succeeded the summer of your lives, as it has mine, but I would confess to no surprise if the galloping coming generation thundering on with arithmetical progression of discovery, research and experiment, should so outclass its parent periods as to leave them "standing at the post" in the struggle for scientic supremacy and the ever-present battle of health and life against disease and death.

EDITORIAL

To Be Handled With Gloves

IN its issue of Sunday, June 25, under the heading of "Special Features" (a delightfully appropriate caption), the *New York Times* published a series of lists contributed by a variety of prominent people, of the twelve greatest women of America. When Senator Depew was asked to participate he said: "What will number thirteen say to me—or do to me? Do you want me to ruin my young life after these eighty-eight years of existence? It is a hard job; harder than any man ought to tackle." Exactly so, but he tried, nevertheless.

It was Senorita Mandujano who asked the National League of Women Voters to indicate for her the twelve American women who should stand as models for what is best for the women of Chili. In answer to her request there have been submittd not twelve, but many times twelve names and on all the lists there is but one woman who appears often enough to be considered as truly great. One wonders whether she is flattered to be classed with movie stars, novelists, actresses, politicians and uplift agitators. These thoughts occur to the editorial mind because in seventeen lists examined but one woman physician is named. There are one or two nurses and a great dearth of Mothers.

One is forced to conclude after an inspection of the names presented that the general public cannot discover twelve noble examples of real womanhood for the Chileans to imitate. Or else, those who submitted lists substituted such adjectives as "notorious" for "illustrious." And yet one has but to recall the memory of his Mother to feel the comfortable assurance that America is full of glorious women who are too much occupied in bringing up their sons and daughters to be high minded and useful ctiizens to find time for self- aggrandizement. Incidentally, we are now to have a list of the twelve greatest men. Let us pass this by without comment. H. G. W.

Defects In Posture

IT does not need the admonitory publications of the Postural League to emphasize the carelessness that exists in regard to the proper carriage of the body. Part of this is probably the outcome of those curious fads that express themselves in eccentricities of dress and manner. Just now, the "debutant slouch" has given way to the flapper flop, but this represents merely the most recent of the follies of the young. One has but to glance through the delightful cartoons of George duMaurier and his predecessors as they have appeared for the last one hundred years in *London Punch,* to recognize the affectations of posture, of manner and of dress that have been contributed by the callow and the shallow brained to stir the indignation and excite the derision of one generation after another. Therefore we must take it for granted that each succeeding generation will affect something of the grotesque just as the monkeys do—to make the other animals sit up and take notice.

But there is a side to this that holds much of practical interest for the medical profession. We may assume that when the hare-brained child of eighteen has gotten tired of letting her shoulders stoop and hunching up her back, she will drop that nonsense just as she has discarded her corsets, for some newer fad. But the natural mimicry of the very young has already produced a considerable number of under-developed children with twisted spines, stooped shoulders and protruding shoulder-blades, euphoniously called "angel wings." It is to be feared that a great many physicians who are consulted for the minor ailments of growing children are permitting these deformities to pass unnoticed; and this is particularly unfortunate because while readily corrected in the plastic stage, they tend to become fixed deformities with every added year. It is worth remembering that the type of growing child in whom such deformities appear is all too apt to be afflicted with other abnormalities, especially nasal deformities, adenoids, infected tonsils, contracted jaws and a lymphoid system inadequate for its protective function. If the writer's observation is not too restricted a one, he must also emphasize that such children are prone to show defects in their glandular system, especially in the gonad and pituitary elements. It is hardly necessary to picture the deformities of the thorax, of the abdominal viscera and of mental development which may and often do follow the persistence of these deformities. Carried to a logical conclusion, the ultimate result of neglect to recognize and correct what are too often regarded as trifling deformities, is a mental and moral deformity which may be extremely severe.

It is not too much to say that neglected deformities of this type may be the cause of criminal tendencies in later life. Some years ago some photographs were reproduced in this journal illustrating the remarkable mental and physical improvement resulting from the correction of a badly deformed mouth in a boy of fifteen. (Article by Bertram Machat, vol. 12, pg. 281.)

Volumes have been written upon the results of respiratory obstruction and it is needless to amplify the suggestions already made. The main question at issue turns upon the failure of physicians, when called upon to prescribe for their young patients, to recognize these defects and to urge that parents institute the proper exercises for their correction. One does not need any special training in orthopedics. It is merely needful to establish the habit of looking at the back and shoulders of children when they are stripped for a proper examination. One may add that it is precisely through this vulnerable spot that chiropractors and others are making their appeal for public support. The public cares little, because it knows little, about ultra-scientific medical practice. It is impressed by what it sees and feels and if physicians continue to neglect this obvious part of their professional duty, they need not be surprised to find it usurped by charlatans.

H. G. W.

Society Transactions

Transactions of the Brooklyn Surgical Society

Regular meeting of the Brooklyn Surgical Society, held at St. Catherine's Hospital, 133 Bushwick Avenue, Brooklyn, N. Y., Thursday, February 2nd, 1922, at 8:30 P. M.

The President, Robert F. Barber, M. D., in the Chair.

PROGRAM

1. Local Anesthesia; Presentation of Patients, Farr Apparatus and Phonograph.
   Drs. J. M. Scannell and H. G. Peter.
   Discussion by Drs. W. F. Campbell, Joseph Tenopyr, Mathias Figueria, E. H. Fiske and J. M. Scannell.
2. Review of Forty Consecutive Nephrectomies. Dr. J. F. Griffin.
3. Review of Intestinal Obstruction for 1920.
   Drs. Mathias Figueria and D. A. McAteer.
   Discussion by Drs. H. F. Graham and Mathias Figueria.
4. Review of Hernias (all types) for a Period of Eighteen Months.
   Drs. F. D. Jennings and D. E. McMahon.
   Discussion by Drs. W. F. Campbell, R. F. Barber, J. M. Scannell and F. D. Jennings.
5. Review of Extrauterine Pregnancy (lantern slides).
   Drs. C. A. Gordon and W. C. Meagher.
   Discussion by Drs. T. B. Spence, R. F. Barber, E. H. Fiske and C. A. Gordon.
6. Complications Following Tonsil Operations for Two Years.
   Drs. G. G. Fisher and S. H. DeCoste.
   Discussion by Drs. Roger Durham, H. F. Graham, E. H. Fiske, T. B. Spence and S. H. DeCoste.
7. Review of Chronic Appendicitis for 1920.
   Drs. D. G. Bodkin and John Smith, Jr.

THOMAS M. BRENNAN, M. D., *Secretary*

Local Anesthesia

JOHN M. SCANNELL, M. D., F. A. C. S.
Brooklyn, New York

As this paper will be relatively a short one, I shall confine myself chiefly to a discussion of the more recent advances in local anesthesia and to the practical side of this problem.

My interest in, and the possibilities of local anesthesia were brought rather forcibly to my attention while I was visiting the principal European surgical clinics in the early summer of 1914, just before the World War. In Leipsic, I saw Prof. Payr remove a tumor of the brain under local anesthesia with apparently very little discomfort to the patient. I saw Professor Sauerbruch, who was then in Switzerland, do an extensive resection of the chest wall, removing seven ribs under local anesthesia. In Heidelberg I met Dr. Herschel, who had just completed a book on local anesthesia, and who told me that in the Heidelberg Surgical Clinic during 1906 85 per cent of the operations had been done under general anesthesia and 11 per cent under local. In 1912 (six years later) they performed 46 per cent of their operations under ether and 54 per cent under local.

In this country the names of Corning, Halstead, Matas, Crile and Cushing stand out as pioneers of local anesthesia, later valuable contributions to this subject being made by Farr, Allen, Babcock and many others.

In the study of the more recent advances in local anesthesia, the name of Farr is prominent, not only for his many valuable contributions, but also for his most startling record in connection with this method of anesthesia. He reports that ten years ago he was doing 50 per cent of his surgery under local, five years ago 70 per cent and at the present time 85 per cent, his work being limited to general surgery.[1] This record shows that with increased experience and skill one field after another is being conquered by local anesthesia.

In discussing the relative merits of local anesthesia as compared with inhalation anesthesia, the first question that confronts us is that of mortality and morbidity.

Under the heading of mortality from general anesthesia, we find various figures quoted in the literature. A fair average, however, is chloroform 1 in 2,000 and ether 1 in 5,000. The relative rarity of death from general narcosis may make this seem insignificant, but it is only necessary for an operator to lose one patient in this manner to have this apparently insignificant advantage brought forcibly to his attention.[2]

There is no doubt that the horrors of general anesthesia, both psychic and real, together with the mortality and morbidity, have been markedly diminished by the expert or special anesthetist: and I believe that in the future we shall have men who will be especially prepared to do for local anesthesia what the special anesthetist is doing today for general. To prophesy, going still further, the expert anesthetist of the future will be one who will be especially qualified in all branches of anesthesia, and will be able to administer the anesthetic of choice in a given case.

In Sherwood-Dunn's book on regional anesthesia we find the statement that since the concentrated solutions of cocain have been replaced by the weak solutions of the less toxic agent procain, deaths from local or regional anesthesia have disappeared from surgical practice.[3]

The report of the committee on the advantages and disadvantages of the various local anesthetics in nose and throat work, reported in the *Journal of the American Medical Association*, October 22, 1921, states that in a total of twenty-two deaths from local anesthesia, three were due to procain. I do not believe this statement should pass unchallenged, as I feel that these deaths were due to some other cause, especially so on reading the limited details of these cases, which state that they were all tonsil cases, and that in the first case less than one grain was used in an adult male 24 years of age; that in the second case about one grain was used in an adult female 29 years of age; and that in the third case five grain were used in an adult 36 years of age.

As I have several times used as much as thirty-six grains of procain in opening the abdomen of a fat patient, with absolutely no toxic effects, I feel that the deaths referred to above, were due to mistakes.

I am glad to get this opportunity of reporting a death I had which at first appeared to be due to procain, but which, after careful and prompt investigation, was shown to be the result of a mistake. An adult male, in good condition, aged 56, suffering from a rectal fistula, was operated on by me in the usual manner and died four hours later. The anesthetic used was sacral, after the method suggested by Dr. J. E. Thompson of Galveston, Texas, which consists of injecting into the sacral canal 30 cc. of a 1 per cent procaine solution to which is added 10 m. of a 50 per cent solution of calcium chlorid. There was some misunderstanding between the house surgeon and the drug room, the consequence being that what I got and injected into this man's sacral canal was 30 cc. of a 30 per cent solution of calcium chlorid, to which was added 10 m. of a 1 per cent procaine solution. The anesthesia in this case was perfect in twenty minutes, and the operation completed without trouble, and the patient returned to bed in good condition, but shortly afterwards his pulse became weak and rapid and he began to show signs of collapse. These symptoms increased and he died four hours after the operation from calcium chlorid poisoning. This case taught me a most important lesson and I shall never order or use, especially in hospital work, anything but simple solutions that can be readily prepared in the operating room.

At my suggestion we have had made tablets containing procain and Ringer solution in the proper proportion so that one tablet added to one ounce of distilled water makes a ½ per cent procaine in Ringer solution, which is the standard solution used in the infiltration method, also tablets twice this strength, *i. e.*, one table to an ounce makes a 1 per cent solution, which is the usual strength employed in sacral anesthesia and nerve blocking [kindness of Novocol Chemical Manufacturing Company.]

In the *Journal of the American Medical Association,* November 26, 1921, Cohn and Levy, commenting on the report of the Committee on the advantages and disadvantages of the various local anesthetics in nose and throat work, and reporting three deaths from procain, state that they are at loss to account for these deaths, and suggest that further study be made of these cases, since a report of this kind may serve to discourage men from using a drug that has proven a blessing to all users of local anesthetics. They also report a record of 65,000 injections made in nose and throat work during the past eight years without a single death.

Cocain.—I shall not discuss this drug except to condemn it, as I feel that it is a dangerous one and bears the same relation to local anesthesia that chloroform does to general anesthesia.

Morbidity.—In comparing the morbidity of general anesthesia with local, I shall consider only the drug most usual and most commonly used in general anesthesia, ether, and procain, which is generally accepted to be the drug par excellence in local anesthesia.

Crile, in one of his latest books, makes the following remarks about ether :

(*a*) Ether tends to cause broncho-pneumonia, especially in abdominal operations during the winter.

(*b*) It diminishes, even temporarily abolishes phagocytosis, and is, therefore, unsuitable in infections.

(*c*) There is a tendency to a fall in blood pressure after operation; hence it is unsuitable in shock.

(*d*) Ether causes a rather large diminution in the reserve alkalinity of the blood.[4]

Toxic symptoms from procaine sometimes occur in nerve-blocking and are in all probability caused by the injecting of the solution directly into a blood vessel. This can be avoided if the needle is on a syringe and a negative pressure is maintained until the needle is in the desired position. If a blood vessel is punctured, blood will flow into the syringe.

The irritating effects of ether on the respiratory and alimentary tracts and its degenerating effect on the internal organs are some of the reasons for the effects that are being made to find something better.

It is interesting at this point to call attention to some of the recent work of Gwathmey under the hearing of "Synergistic Anesthesia," which consists of combining magnesium sulphate with morphin.[5] Still more recently paraldehyd has been added in an effort to induce complete anesthesia or one so complete that little general anesthesia will be necessary. In this or any other type of anesthesia the question of mortality and morbidity will have to be determined before the type can be classified and conclusions drawn. It may be that the ideal anesthesia of the future will be obtained by the subcutaneous injection of a certain drug or combination of drugs; but at the present time we have no preparations that can be used with safety.

Advantages of Local Anesthesia.—Under this heading I should like to direct your attention to the fact that pathology, as it exists in the living body, can be studied under this type of anesthesia better than under any other. This is especially important in abdominal conditions. Finney and Friedenwald call attention to pylorospasm in adults, and state that inasmuch as the spasm is extremely liable to relax under general anesthesia, the actual condition may be entirely overlooked in the course of the operation.[6]

In the *Journal of the American Medical Association,* October 22, 1921, under the heading of "Pulmonary Abscess in Adults Following Tonsillectomy Under General Anesthesia," Drs. Fisher and Cohen report seventy-six cases. In summing up they call attention to the fact that in seventy-four of these cases the tonsils were removed under general anesthesia and so far as known ether was used. In the other two cases the tonsils were removed under local anesthesia and W. B. Porter, who reported these cases, stated that both these patients were definitely tuberculous.

Disadvantages of Local Anesthesia.—In the highly neurotic and the young local anesthesia is not indicated. Very young babies are the exception to this, and I have on five occasion operated under local on babies about eight weeks old suffering from congential hypertrophic pyloric stenosis, with absolutely no difficulty. Also without any difficulty removed the appendicies of three patients; two 7 years of age and one 9.

Time.—It is true that surgery under local anesthesia consumes more time than that under general, and for that reason this method will never become popular in large clinics, or with the surgeon whose one object is speed. To my mind, what is best for the patient should be our guide in any procedure.

Experience and skill in the use of local anesthesia and the use of proper instruments will reduce the factor of time to a minimum. Some operators accustomed to the use of local anesthesia can operate just as fast and as well under local as under general anesthesia. It was my privilege this summer to see Dr. Farr do, in thirty-three minutes, under local anesthesia, a cholecystectomy on a patient who had had a cholecystectomy a year before. It took three minutes to anesthetize the abdominal wall with the use of his pneumatic injector and thirty minutes to complete the operation. Recently I removed a chronically inflammed appendix from an adult male absolutely unassisted in twenty-five minutes; two minutes were required to anesthetize the abdominal wall, using the Farr injector and twenty-three minutes were required to complete the operation.

Sepsis.—It is *not* true that infections are more common with the use of local anesthesia, provided sterile isotonic solutions are used and strict surgical cleanliness is maintained during the injections. I find that I get as many infections when ether is used as when local is used. I feel that the surgeon who never gets an infection either does very little work or else has a peculiar regard for the truth. We all get a certain number of hematogenous infections that are beyond our control, owing to a chronic focus somewhere in the body, such as a chronic otitis media, tonsillitis, etc. The resistance of the operative field being lowered by the trauma necessary to expose our pathology.

Methods.—The most commonly used methods are:

1. Infiltration, or the bathing of nerve endings with an anesthetic agent.

2. Conduction (also spoken of as regional or nerve blocking) which is accomplished by the interruption of the conductivity of small or large nerve branches or roots, and which represents the most complete stage of local anesthesia. Subdivisions of this are spinal, sacral or caudal, paravertebral, endoneural, etc., the title depending upon where the injections are made.

Spinal.—Spinal anesthesia fills a most interesting chapter in local anesthesia today because there are such divergent views about its mortality and morbidity. In the European clinics, especially in France, we find spinal anesthesia is much more popular than in this country because the mortality here is still too high for it to be recommended as a method of choice.

In a recent conversation that I had with Dr. Labat, special lecturer on anesthesia, the Mayo Foundation, he stated that he had used spinal anesthesia many thousand times without a death. Pauchet reports 2,000 cases with two deaths, and Jaunesco 5,000 cases with no deaths.

If the reports from the French clinics are correct, then there must be something wrong with the method employed in this country.

My personal experience with spinal anesthesia has been rather limited, having used it in but thirty-one cases. I have had no deaths, but two cases there was a rather marked cardiac collapse, due doubtless to the anesthetic.

After studying the method employed by Labat and seeing him do several spinals, I wondered why I did not have more reaction than I had. I employed a solution recommended by Babcock, consisting of procaine (1.16 gms.), absolute alcohol (0.2 cc.) and distilled water (1.8 cc.), dose 1 to 2 cc.

In making up a solution of this kind there is always a chance for error, and even if correctly made the solution is not isotonic with the cerebrospinal fluid. Other solutions recommended contain lactic acid, milk sugar or glucose, the reason given for their use being that they increase the specific gravity of the solution so that it will not flow toward the medulla.

The method employed by Labat consists simply of allowing the cerebrospinal fluid to drop into a sterile ample, containing sterile procaine, "one centigram of procain being used for every fifteen pounds bodily weight of the patient."

After the procaine is thorough mixed with the cerebrospinal fluid in the ampule, it is drawn into a sterile syringe and injected slowly into the spinal canal. One need not be afraid that the solution will travel very far from the point of injection, as the procain acts like a dye and has a very strong affinity for nerve tissue. In a recent case I operated on for a pelvic condition under spinal anesthesia, the injection was made between the twelfth dorsal and first lumbar vertebrae, seven minutes later the patient was put up in a marked Trendelenburg position with absolutely no injurious effects.

Blood pressure is an important element in spinal anesthesia, and in patients with hypotension this method should not be employed, because, as a rule, there is a drop in the blood pressure soon after the injection is made.

The free use of adrenalin chlorid hypodermatically acts very well in overcoming this reaction. The blood pressure is not much affected if the injections are made low down in the lumbar region, because the splanchnic area is not so markedly affected.

Col. Hugh Cabot reports a series of 180 amputations of the thigh, 90 operated on under ether and 90 under spinal anesthesia. In this series the mortality under spinal anesthesia was 50 per cent below that of those done under ether.[7]

I feel that there is a decided field of usefulness for spinal anesthesia and that with more attention to technic, the condition of our patients, and the discontinuance of irritating drugs and solutions, we shall have in this country better results from this method of anesthesia.

Sacral or Caudal.—This is accomplished by the injecting of an anesthetic agent into the sacral canal. As the needle does not penetrate the dura, the fluid is entirely epidural. The nerves lying in the sacral canal are bathed with the anesthetic solution, which usually consists of 30 cc. of a 1 per cent procain in Ringer's solution, or 60 cc. of a 5 per cent procaine in Ringer solution. The anesthesia should be complete in twenty minutes and should last two hours.

This method is applicable to operations around the rectum, perineum, bladder, prostrate, for the purpose of cystoscopic examination, relief of pain in sciatica, and second stage of labor.

Paravertebral, parasacral, endoneural and perineural are all types of conduction anesthesia, depending upon the location of the injection.

Local.—Intraarterial and intravenous anesthesia are mentioned only to condemn them, as they are not used at the present time.

Aramentarium.—In discussing this topic in local anesthesia, one must begin and end with the work and accomplishments of Dr. Robert Emmett Farr. One of the most tiresome and time-consuming features of local anesthesia is the injecting of the anesthetic. Many attempts have been made to simplify this, but it was not until Dr. Farr introduced his pneumatic injector that real relief came. By the use of this machine injections can be made quickly and with very little effort on the part of the operator.

I have found Farr's spring retractors a great help in any surgical procedure where retraction is necessary. In abdominal work especially, these give gentle, constant retraction which results in much less trauma than that caused by the use of any of the other types of retractors.

Good illumination of the operative field is always essential for successful surgery, and, here again, Dr. Farr has come to our aid with what he calls his elephant trunk lamp. This consists of a cluster of lights on a long arm which can be moved in any desired direction. This lamp must be seen in use to be thoroughly appreciated.

Needles.—It is very necessary that fine needles be used, especially for intradermal injections. One should have a set of needles of assorted sizes, varying in length from one to four inches.

Solutions.—In the infiltration method the ½ per cent procain in Ringer solution, to which is added three drops of adrenalin chlorid, to the ounce, is the one universally employed. In the different types of conduction anesthesia the strength of the procaine in the solution varies from ½ to 2 per cent.

The amount of adrenalin chlorid added to the solution varies, *e. g.*, for tonsil work or work in any other part of the body where active bleeding is likely to occur, ten drops to the ounce are added. In the case of patients suffering from hyperthyroidism, or in skin grafting, the adrenalin is omitted.

Psychic.—This, one of the most perplexing problems in local anesthesia, is at the present time receiving a great deal of attention. Methods employed to overcome the psychic element vary so greatly with different operators, that it is quite difficult at times to decide which to employ. I do not believe that any one method is sufficient, but am of the opinion that a combination of all methods will meet the demands in a large majority of cases.

Morphin alone, or in a combination with other drugs, goes a great way to lesson the fear in a surgical case before operation. I give morphine gr. ¼, atropin 1-150 one hour prior to the time set for the operation.

Nitrous-oxid-oxygen is used chiefly at the present time by Crile. Small amounts of the above mixture are administered by experts producing a pleasant analgesia in which pain sensations are abolished while consciousness is retained. This is a rather complicated method, the success of which would be doubtful in the average hospital.

System of Teamwork.—Successful local anesthesia is not a trick, but is accomplished only by the carrying out successfully of many details. From the time of entrance of the patient into the hospital until he has been operated on, nothing should be said or done to increases his fear. Every surgical patient has more or less fear of an operation, and a tactful, intelligent nurse or interne can do a great deal to decrease this. At first I used to discuss anesthesia with my patients, but found that I only confused them, so that at the present time in the majority of cases nothing is said. The patient is given a hypodermic injection of morphine and taken to the operating room one hour later where he is told that he is going to be prepared for operation and that the preparations will take some time. Aided by this fiction, we have, on several occasions, removed an appendix without the patient having any knowledge that he was being operated on. The eyes of the patient should be covered during the trip to the operating table and not uncovered until the anesthetic screen is put in place. The nurse in charge of the patient should never leave him and should engage him in a pleasant conversation about anything except surgery and pain.

Music.—As an aid to morale it has been suggested that a phonograph be used by the anaesthetist or nurse in charge of the patient. At first this may seem rather ridiculous, but the more one reflects upon this theory and studies its possibilities, the more forcible the idea becomes.

Braun states that a sudden, unexpected injury of the body is not found to be painful, but that even a needle-prick is painful when expected. If the mind is otherwise occupied, it is conscious of no pain.[2] Therefore, from a practical point of view, music is a great help in overcoming the psychic element, as it gives the conscious patient something else to think about beside the fact that he is being operated on.

Another great problem is the kind of records that should be used. Imagine a rather nervous patient being operated on under local anesthesia and the phonograph beginning to play in clear, full tones, "The Vacant Chair" or "Nearer My God to Thee." I think you will agree with me that the fears of the patient would be increased to the point where it might be difficult to proceed with the operation. Therefore, it has occurred to me that if some records increase fear, there are others that will decrease it.

The results of these experiments are too long to discuss in detail. It was found, however, that the problem of just what records are best suited to decrease fear in the majority of surgical patients has not yet been worked out, but as we have installed a phonograph in our operating room at St. Catherine's Hospital, we expect in the near future to have some useful information on this problem.

Technic.—To my mind, the most important factor in this work is the complete and thorough anesthetizing of the operative field. To this end one should familiarize oneself with the proper method and technic to meet the requirements of a given case. I do not believe any one method will answer in all cases. The infiltration method will suffice in a large number of cases, where spinal anesthesia is the anesthetic of choice in acute intestinal obstruction.

Gentle handling of tissue and the performance of the operation in a true surgical manner are essential, or, as Crile puts it, a feather-edge technic is imperative. That this may be attained, it is necessary for all cutting instruments to be sharp and for the operator to have well-trained assistants.

Review of Work Done.—The following statistics are taken from my service in St. Catherine's and Greenpoint Hospitals for the past three years and refer to the number and kind of anesthetics used:

1919

Total number of cases	141
Ether	116
Local "infiltration method"	9
Spinals	16

In other words, we did 82 per cent of our work under ether and 18 per cent under local anesthesia.

1920

Total number of cases	173
Ether	116
Local "infiltrations"	36
Sacrals or caudals	7
Spinals	1

This table shows that 61 per cent of our work was done under ether and 39 per cent under local anesthesia.

1921

Total number of cases	205
Ether	91
Local "infiltrations"	96
Spinals	12
Sacrals	3
Local and ether	2
Local and gas	1

These figures show that during 1921 43 per cent of our work was done under ether and 57 per cent under local anesthesia. In St. Catherin's Hospital for 1921 I did 69 per cent of my operating under local anesthesia.

A review of the work done under local anesthesia during the past year shows a variety of cases, *e. g.:*

Hernias	24
Appendectomies :	15
Cholecystectomies	3
Cholecytostomies	2
Pylorectomy and gastroenterostomy	1
Cholecystectomy and gastroenterostomy	1
Resection, duodenal ulcer and gastroenterostomy	1
Cesarean section	1
Haemarroids	7
Supravaginal hysterectomy	1
Bilateral salpingoophorectomy	3
Stab wound of liver	1
Orchectomy	1
Amputation of cervix and vaginal plastic	2
Gastroenterostomy	2
Throidectomy	1
Drilling of oscalcis for Steinman pin	1
Reduction of Colles' fracture	1
Ventral fixation	2
Ligation of superior thyroid arteries	1
Amputation of leg	2

Conclusion.—As a result of experience and of investigation of this subject, we may, then, arrive at the following conclusions:

1. The mortality and morbidity are less under local anesthesia than under any other method of anesthesia we have at our command today.
2. It is possible to do from 60 to 85 per cent of all surgery under local anesthesia, the percentage depending upon the experience and skill of the operator.
3. Procain is the ideal drug in all types of local anesthesia.
4. The ideal local anesthesia in major surgery is not a tour de force or a haphazard result, but is accomplished only by the successful

carrying out of many details.

5. By the use of the proper instruments and by teamwork, operations under local anesthesia are made easy, and the time required to do the work is much shortened.

6. Infections are no more common with local anesthesia than with any other.

7. Spinal anesthesia, when given properly is comparatively safe.

8. Music is of great help in overcoming the psychic element in local anesthesia.

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DISCUSSION

Dr. William F. Campbell:

"We have recently been trying out, under the direction of Dr. Gwathmey, the synergistic analgesia of which he is the author, a combination of drugs which produces sufficient analgesia to perform surgical operations—a combination of morphin, 25 per cent magnesium sulphate and paraldehyd. In the cases in which it works it works very well. You give a hypodermic of this combination while the patient is in bed and the patient goes to sleep. The patient is removed to the operating room, you do your operation, the patient goes back to bed and wakes up without any consciousness of having been operated on. There is not a single link in the operative procedure of which the patient is aware. We have done some hysterectomies, some hernias, some superficial neoplasms, and they have certainly been ideal.

"Now, the weak point about the synergistic analgesia is the fact that the same dose does not work the same in all patients. In other words, if we could get a dose which would be in proportion to the body-weight of the patient, we would certainly have an ideal form of surgical anesthesia in this synergistic analgesia of Gwathmey. I don't mean to say that this is the ideal which we have arrived at, but merely wish to present it as a suggestion."

Dr. Edwin H. Fiske:

"I would like to say a word about the value of spinal anesthesia. I am glad to hear Dr. Scannell refer to that. For a number of years we used spinal anesthesia as a routine on our service at the Kings County Hospital, and our anesthesia was always perfect with one or two exceptions (failures), and our results were good. Out of about 1,600 cases we lost two patients. Spinal anesthesia, therefore, I think, has been forgotten in the rush for local anesthesia and for synergistic anesthesia and for different types of anesthesia. There are some classes of cases in which spinal anesthesia is the finest anesthetic than can be given.

"The one important feature in spinal anesthesia, whether it be novocain, stovain or procain, or a solution in the spinal canal itself, or perhaps some slightly irritating chemical, does not matter, but the one contraindication to the use of spinal anesthesia is low blood pressure, and every difficulty which I have had myself with spinal anesthesia has been because of a failure to realize that contraindication to its use, and I think we will all still use spinal anesthesia on certain occasions.

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

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Prostitution und Tuberkulose

PROSTITUTION UND TUBERKULOSE; KLINISCHE UND SOZIALMEDIZINISCHE UNTERSUCHUNGEN. Von Dr. I. W. Samson. Leipzig, Georg Thieme, 1921. 120 pages. 8vo. Ausland: Paper, Mk. 54.-

This brochure of 120 pages, including a register of names, is divided into nine chapters, covering the following subjects:

1. Sources and methods of infection.
2. Clinical facts in 1,300 prostitutes with tuberculosis.
3. Social-medical statistics of tuberculosis and healthy prostitutes, including residential and income problems.
4. Occupational diseases and accidents, important in the tuberculosis of prostitutes.
5. Syphilis in prostitutes and its relation to tuberculosis.
6. Alcoholism in prostitutes and its relation to tuberculosis .
8. Frequent detention of prostitutes in jails in connection with tuberculosis.
9. Sanitary observation and care of prostitutes, with particular regard to those having pulmonary tuberculosis.

The author has collated a mass of facts which he believes of importance in relation to the public health and for which he suggests certain remedies to be inaugurated by enactments of law and carried out by the Government. The book is carefully, not to say exhaustively written and has considerable worth from a sociological and hygienic point of view. It merits the attention of all workers upon the subject, even though it may not appeal to them as always practicable in its application.

J. M. VAN COTT.

Pathologische Physiologie

PATHOLOGISCHE PHYSIOLOGIE. Von Dr. H. E. Hering. 1. Abteilung-Die Funktionsstorungen des Herzens, der Gefasse und des Blutes. Leipzig, Georg Thieme, 1921. 120 pages. 8vo. Ausland: Paper, Mk. 39.-

It is interesting to note that the trend in present day medicine, both here and abroad, is to establish a basis for symptoms, on a conception of the proven facts in modern physiology. So necessary has this science become to a clear understanding of clinical medicine, that it is almost impossible to read a modern text book intelligently without at least a fair understanding of physiological facts.

This is well illustrated, in a concise, clearly written description of the "Disturbances of Function of the Circulatory System," by Dr. H. E. Hering. The symptomatology is first discussed, and then the normal, and pathological physiology are taken up in sequence. The physiology of the heart and circulation, has, because of its rapid strides, outstripped the average practitioner, and for this reason the book will not form easy reading for the uninitiated. The author is particularly to be commended, for the clear description of function, following the various lesions of the His-Tawara system.

The cardiac arrhythmias are intelligently discussed and differentiated in the light of the disturbances in the conduction system. Abnormalities of the blood pressure, as well as those of the blood itself, follow the general trend, and are clearly defined, on the basis of the pathological physiology which they represent. The volume is well worthy of careful attention.

A. M.

Ultramikroskopie und die Fruhdiagnose der Syphilis

DIE KLINISCHE ULTRAMIKROSKOPIE UND DIE FRUEHDIAGNOSE DER SYPHILIS. Von Dr. Gustav Fantl. Berlin, S. Karegr, 1921. 29 pages, with 4 illlustrations. 12mo. Paper, Mk. 3 plus 300% Valutazuschlag.

This is a book of instruction on the rapid diagnosis of syphilis by the aid of the microscope. It tells how to examine tissues and secretions with dark field illumination, etc. W.

The Vitamins

THE VITAMINS. By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, U. S. Department of Agriculture. New York, The Chemical Catalog Company, Inc., 1922. 273 pages, illustrated. 8vo. Cloth, $4.00. (American Chemical Society Monograph Series.)

This little volume of 270 pages is one of an interesting series of scientific and technologic monographs edited by the American Chemical Society.

It serves a distinct purpose in that it gives a complete review of this difficult subject and presents the development step by step of this field of chemistry in such a way that it is both interesting and intelligible to those whose activities may be along a wholly different line. At the same time the authors have included extended references to the literature.

To the physician and medical student this book is especially interesting.

Henry M. Feinblatt.

Therapeutisches Vademecum fur die Kinderpraxis

THERAPEUTISCHES VADEMECUM FUER DIE KINDERPRAXIS. Von Dr. Hans Kleinschmidt. 2. u. 3. Auflage. Berlin, S. Karger, 1920. 196 pages. 12mo. Boards, Mk. 18 plus 300% Valutazuschlag.

This little book, full of sound therapeutic advice, is subdivided into several chapters. The symptoms of general infections are taken up first and medicinal and hydrotherapeutic measures are described. The come three chapters full of the latest methods of feeding healthy and sick infants and children. In these chapters the author follows Prof. Czerny's classification of nutritional disturbances. In outlining the treatment, the author always considers prophylaxis first and then gives reasons for the selection of the different feeding procedures for the various disturbances.

The chapter that will especially recommend this book is the one where the preparation of the different butter-flour mixtures is explained. The booklet well covers the entire field of pediatric therapeutics and will be found to contain many little important details that are hard to find in large text-books. Sampson J. Wilson.

Heart Disease

HEART DISEASE; ITS CARE, CURE AND PREVENTION. Suggestions for Persons Suffering from Disease of the Heart and Blood Vessels. By James Henry Honan, M. D. New York, Dodd, Mead & Company, 1922. 204 pages. 12mo. $2.00.

The original title of this book, first published in 1913, was evidently "What Heart Patients Should Know and Do." This title is more appropriate than the present one which is more ambitious in expression than the text or scope of the book, which is written for the use of patients, and gives in printed form the information usually given by a physician during his instructions to a patient having some cardiac condition. It is a well-written and prepared series of chapters of hygienic instructions concerning food, clothing, exercise, moderate living and subjects of interest to one who may have to pay especial attention to his general health. It would serve as a good reference book for a patient who easily forgets the instruction given to him by his physician.

H. M. M.

Diet and Race

DIET AND RACE. Anthropological Essays. By F. P. Armitage, M. A. London and New York, Longmans, Green and Company, 1922. 144 pages. 8vo. Cloth, $2.25.

This small book attempts to trace out the effects of diet upon physique, color and cranial form. With respect to the first some interesting generalizations are founded upon an impressive array of facts. Color, it is argued, hinges upon salt; people, it appears, are the fairer the more salty their diet; the greater part of the book is devoted to the establishmnt of this thesis and the author shows industry in the garnering of pertinent data and ingenuity in their interpretation; he thinks that "the effect of an increased intake of salt on pigmentation may be due to a lessened action of light, owing to an accelerated movement of the blood corpuscles." The section on cranial form attempts to account for brachycephaly, dolichocephaly and mesocephaly on the basis of jaw and muscle action and development as determined by the character of the diet; mathematically and anthropologically this brief section is very well done. The author is not a physician and his method is mainly the presentation of facts in such a way as apparently to bear out conclusions drawn *a priori*. But it is a very suggestive book and much opportunity is given the reader to formulate his own conclusions.

A. C. Jacobson.

Outwitting Our Nerves

OUTWITTING OUR NERVES. A Primer of Psychotherapy. By Josephine A. Jackson, M. D., and Helen M. Salisbury. New York, The Century Co. 1922. 403 pages. 12mo. Cloth, $2.50.

The authors modestly give the sub-title, "A Primer of Psycho-therapy," to a volume of some 400 pages, which to the layman should be of absorbing interest. Written in popular style, the book yet manages to contain a mass of information pertaining to the every-day application of psychotherapy. There is a solid foundation of knowledge behind this clear presentation of a subject which is of interest to practically everyone since the general acceptance of the theories of Freud. An ample bibliography mentions, beside this master, Jung, Jastrow, Brill, Morton Prince, Janet, Crile, Cannon, and many other authorities.

After a resumé called "The Story of the

Instincts," the authors cover comprehensively the subconscious mind. Linking this with the body, the question is asked, "What is it in the last analysis that makes a person nervous, and how may he find his way out?" Two chapters answer this question in a thorough and understanding manner. The remainder of the book deals with such subjects as dietary taboos, the taboo of constipation, and insomnia. One chapter headed "A Woman's Ills," deals in such a common-sense manner with woman's imaginary "nerves" and complaints, that it should be required of every female in the land to read it.

The final answer as to how actually to outwit our nerves is of course a sublimation of the repressed instincts. The author gives as examples a number of her own cases, which seem to have met with remarkable results through a re-direction of energy into useful channels. FREDERIC DAMRAU.

Motherhood

MOTHERHOOD. A Practical Guide for the Newly Married, Including Determination of Sex, Intercourse During Pregnancy, and Prenatal Influence. By H. W. Long, M. D. Boston, Richard G. Nadger, 1921. 195 pages. 8vo. Cloth, $3.00.

The reviewer feels that a book on such a subject primarily must be practical for scientific educational information, and for a reference book of facts, this work is surpassed by a number of others. It has not the practicality of a book written by an obstetrician, and, indeed, its author calls himself "Neurologist and Psychoanalyst." The author very evidently has a propagandum to educate people to join the Euthenics Society of Peoria, Illinois, whose object seems to be a study of pre-natal influence. How well the book will succeed in this matter is doubtful, but as a practical guide to expectant mothers, it is feared it will fail.
E. B.

Management of the Sick Infant

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B. S., M. D., and William E. Carter, M. D. St. Louis, C. V. Mosby Company. 1922. 654 pages, illustrated. 8vo. Cloth, $7.50.

The writers, who are leaders in the practice and teaching of pediatrics on the Pacific Coast, have been impressed with the fact that there was no textbook in the English language which deals exclusively with the pecularities of disease as it occurs in infants, and the volume here reviewed was brought forth to answer the need of such a work.

The book, which is attractively set up and beautifully bound, has a division of its reading matter into three main parts. The first takes up vomiting, diarrhea, constipation, nutrition, hemorrhage, pain and tenderness, convulsions and syncope, fever and, lastly, cough.

The second part deals with the diseases of the various systems and infectious diseases, while the third is devoted to methods, formulas and recipes, drugs and poisoning.

If one may pick out any particular section of this excellent treatise for special mention it would seem that the hundred odd pages on "Methods" are distinctly important and attractive. There is hardly a conceivable procedure which might become necessary in the examination or treatment of a sick child which is not clearly though concisely set forth therein. Drs. Porter and Carter have conferred a real benefit on those who labor with sick children, in writing their text-book which must have entailed many arduous hours of labor in its preparation. W. H. DONNELLY.

Tuberculosis in Infancy and Childhood

TUBERCULOSIS IN INFANCY AND CHILDHOOD. By J. Claxton Gittings, M. D., Frank Crozer Knowles, M. D., and Astley P. C. Ashhurst, M. D. Philadelphia and London, J. B. Lippincott Company, 1922. 273 pages, with 23 illustrations. 8vo. Cloth, $5.00.

The text of the authors' publication is based on a course of lectures delivered at the Children's Hospital, Philadelphia, under the auspices of the Pediatric Society.

The need for such a book is the impossibility of devoting more than a limited space to the subject of tuberculosis in a general text-book on pediatrics.

Tuberculosis is such an important disease in childhood that we cannot learn or hear too much about its diagnosis, prevention and treatment. There are chapters on General Considerations and General Principles of Diagnosis, Tuberculin in Diagnosis, Tuberculosis of the Cervic Nodes, of the Upper Respiratory Tract, of the Bronchial Nodes, Pleura and Heart, of the Skin, of the Abdominal Cavity; Tuberculous Bone and Joint Disease and Miliary and Generalized Tuberculosis.

Treatment of the special forms of the disease are taken up in the chapters devoted to them, and the final chapter gives a full description of the management and treatment of the tuberculous child.

This book seems to stand out boldly from the mass of publications in a banner year for pediatric literature, and to cover a field which is a vitally essential one in the care and protection of the child who is powerless to help himself against disease and infection.
W. H. DONNELLY.

Roster of the Associated Physicians of Long Island for 1922

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Gissler, Edwin Fred .....32 Cedar Street
Givan, Thurman Boyd, 61 Pierrepont Street
Given, James B. ....463 Ninth Street
Glynn, James P. ....474 Ninth Street
Glynn, John G., 1634 E. 14 St., Brooklyn, N. Y.
Goetsch, Emil ....2 Sidney Place
Goldberg, Jacob Martin, 253 Stuyvesant Ave., Brooklyn, N. Y.
Goodfellow, Eugene H., 5708 Fourteenth Avenue
Goodrich, Charles H. .....280 Park Place
Gordon, Charles Albert, 847 Putnam Avenue
Gordon, Murray Burns, 4803 Fourteenth Avenue
Gordon, Onslow Allen ...71 Halsey Street
Gordon, Onslow Allen, Jr. .71 Halsey Street
Goubeaud, Henry J. ..287 Sterling Place
Graham, Henry Flack .....474 First Street
Graham, John Cooper....76 Hanson Place
Grant, Leon Joseph ......341 First Street
Grant, Walter Scott, 378 McDonough Street
Gray, Irving ....221 Brooklyn Avenue
Gray, R. C. ....394a Lafayette Avenue
Gray, Robert Howe ......67 Hanson Place
Greeley, Horace ....140 Clinton Street
Green, Edward Everett, 456 Washington Avenue
Green, Samuel William ..161 Clinton Street
Griffin, Edwin Albert ..165 Hancock Street
Griffin, John ....45 Lefferts Place
Griswold, William Church, 78 Prospect Park West
Garvin, William C. ......Kings Park, N. Y.
Geyser, Albert Charles ..Huntington, N. Y.
Gibson, Horatio Gates, Jr., Central Islip. N. Y.
Gibson, William B. ......Huntington, N. Y.
Goldberg, Abraham, 75-16 Boulevard, Averne, N. Y.
Goldstein, Abraham A., 8720 102nd St., Richmond Hill, N. Y.
Goodwin, Norman Charles, 11618 89th Ave., Richmond Hill, N. Y.
Gouley, Louis P. G., Huntington Station,N.Y.
Grimmer, Roy D. ....Hempstead, N. Y.

H

Hagan, Cornelius Edward, 461 Ridgewood Avenue
Hall, Gordon R. ....164 Clinton Street
Hall, Ralph William, 465 Fourteenth Street
Hall, Robert Wellington, 750 East Eighteenth Street
Hamlin, Cyrus ....1252 Pacific Street
Hamlin, George D. ....1259 Pacific Street
Hancock, James Cole, 135 Cambridge Place
Hangarter, Andrew Henry, 168 Stagg Street
Hansen, Anthony Hans, 1830 Eighty-fourth Street
Hargitt, Charles A., 17 Schermerhorn Street
Harman, Eugene Paul, 563 St. Marks Avenue
Harrington, Burt D. ....525 Ocean Avenue
Hamley, George R. ....203 Gates Avenue
Hirsch, Burton......516 Nostrand Avenue
Harris, Isham G., Brooklyn State Hospital, Clarkson Avenue
Hartung, Emil F. ......358 Marion Street
Hatfield, Richard Henry ..1489 Union Street
Haupt, William Carl ......1259 Dean Street
Heeve, William Lewis ..138 Hancock Street
Henderson, Richard A., 168 North Sixth Street
Henry, Morris Walgrove, 5989 Bedford Avenue
Herbert, William .....778 Putnam Avenue
Hermann, Solomon, 4903 Fourteenth Avenue

Herriman, Frank Richard, 50 East Forty-second Street
Herriman, Rudolph F., 1075 Bushwick Avenue
Herrity, George F. ......601 Park Place
Hitlin, Alexander ..685 Willoughby Avenue
Heuser, Gerard William 1050 Hancock Street
Heymann, Isaac Pickard, 76 Lafayette Avenue
Hicks, Edward E. ......1168 Dean Street
Higgins, Thomas Vincent, 982 Bedford Avenue
Hills, Rollin ...231 Seventy-seventh Street
Holden, Frederick C. ....198 Lincoln Place
Hopper, Magnus Tate, 379 Washington Avenue
Horni, John ....447 Nostrand Avenue
Howard, Tasker ....46 Sidney Place
Howe, Alexander C., 40 South Oxford Street
Hoxsie, Edward Hazard, 159 Hancock Street
Hubbard, William Stimpson, 1138 Bergen Street
Huffman, Otto V., 772 Madison Avenue, New York, N. Y.
Hull, Thomas H. ....1369 Dean St.
Hulse, Clarence H. ....83 Norman Avenue
Humpstone, O. Paul, 327 Washington Avenue
Hunter, G. H. V. ....67 Hanson Place
Hyde, Clarence Reginald ..242 Henry Street
Hetrick, J. A. W............717 E. Pkway
Harloe, Ralph H. Farrswirst, 184 Clinton St.
Hadley, William Wallace ..Sea Cliff, N. Y.
Hala, William Wendell, 660 Academy St., Long Island City, N. Y.
Hallinan, Joseph Daniel, 29 Lefferts Ave., Richmond Hill, N. Y.
Halsey, Hugh ....Southampton, N. Y.
Halsey, James L. ....Islip, N. Y.
Harrison, Daniel A. ....Whitestone, N. Y.
Hatton, Henry C., 10436 128th St., Richmond Hill, N. Y.
Hawkes, Forbes, 124 East Sixty-fifth St., New York, N. Y.
Henderson, Alton Sanford, Huntington, N. Y.
Hewlett, Harold E. ....Babylon, N. Y.
Herman, Marcus B., Ward's Island, New York, N. Y.
Hieber, George Matthew, 8654 110th St., Richmond Hill, N. Y.
Higgins, Aaron L. ..Rockville Center, N. Y.
Holcomb, Henry V., 245 Fulton St., Hempstead, N. Y.
Houghton, Harris Ayres, 97 Riverside Drive, New York, N. Y.
Howard, James Gilbert, 11801 97th Ave., Richmond Hill, N. Y.
Hulse, William A. ....Bay Shore, N. Y.
Hulst, Francis A. ....Sayville, N. Y.
Humphreys, George H., 66 Middletown St., Jamaica, N. Y.
Hutcheson, J. Ensor, Rockville Center, N. Y.
Hutcheson, Robert F. ....Cedarhurst, N. Y.
Hyland, Edward J., 186 Shelton Ave., Jamaica, N. Y.

I

Iler, George Hills ......383 Clinton Avenue
Ingalls, James W. ..328 Stuyvesant Avenue
Ives, Robert F. ....962 Ocean Avenue

J

Jacobson, Arthur Clarence, 115 Johnson Street
Jameson, P. Chalmers, 139 Montague Street
Janson, Christian ....978 Bushwick Avenue
Jennings, Frank Dormer, 1083 Bushwick Avenue
Jennings, John Edward, 23 South Portland Avenue
Jewett, Frederick A. ..282 Hancock Street
Jewett, William Averill, 380 Vanderbilt Avenue
Joachim, Henry ....871 Park Place
Johnston, Charles L. ..232 Hancock Street
Johnston, Evan Melrose, 61 Richmond Street
Johnston, Reuben Thomas, 615 Eastern Parkway
Judd, Albert Martin ..375 Grand Avenue
Jackman, Luther Taylor, Huntington, N. Y.
Jaques, Arthur Dabid ....Lynbrook, N. Y.
Jenner, William Edward, 8760 114th St., Richmond Hill, N. Y.
Jessup, Everett Colgate .....Roslyn, N. Y.
Jessup, William H., Cornwell Ave., Hollis, N. Y.

K

Kalvin, Henry M. ....919 Avenue J
Kandt, Hartwig ....2209 Clarendon Road
Kasper, Gerard ....67 Hanson Place
Katzenbogen, Arthur Saul, 1064 East Seventh Street
Keenan, Albert J. ...251 New York Avenue
Keil, Peter Agustus, 164 Arlington Avenue
Kemp, Henry William, 2442 Cornelia Street
Kene, Joseph A. ....64 Greene Avenue
Kenna, Richard J. ....105 Reid Avenue
Kennedy, James Charles, 762 Willoughby Avenue
Kerr, Le Grand ....462 Clinton Avenue
Kessler, George L. ....1119 Bergen Street
Ketcham, George F. ....378 Adelphi Street
Kevin, J. Richard ....252 Gates Avenue
Keyes, Frank Perkins, 86 Lafayette Avenue
Keyes, James J. ....226 Seventeenth Street
King, Samuel T. ....319 Carlton Avenue
Kinloch, Robert Ernest, 222 Hancock Street
Kinne, William ....48 Fourth Avenue
Knoller, M. Malcolm, 244 Schermerhorn Street
Konther, Adolph Frederick, 184 Ridgewood Avenue
Kane, Julius Theodore, 80 Hardenbrook Avenue, Jamaica, N. Y.
Keays, Frederick L. .....Great Neck, N. Y.
Keet, Ernest Ellsworth, 70 Bergen Avenue, Jamaica, N. Y.
Kerby, Walter Harold, 526 Woodland Ave., Woodhaven, N. Y.
Kerrigan, James A. .....Hempstead, N. Y.
Kinch, Charles A. .....Central Islip, N. Y.
Kortright, Warren Post ..Huntington, N. Y.
Krauss, John George, 95 Grand St., Elmhurst, N. Y.

L

Lange, Hugo ....1245 Dean Street
Langstaff, J. Elliot .....19 Seventh Avenue
Langworthy, Howard T.
480 Franklin Avenue
Lasher, Frank Hermance, 1127 Dean Street
Lawrence, Andrew Wilson,
278 Jefferson Avenue
Laws, Carl Henry ....61 Pierrepont Street
Lazarus, George F. ....2105 Caton Avenue
Leahy, Sylvester R. ....69 Remsen Street
Le Fevre, Caroline Hurd.
647 St. Marks Avenue
Leiter, Joseph G., 598 McDonough Street
Lewis, Maurice Thomas,
404 Fifty-fifth Street
Licht, Louis Frederick ..565 Forest Avenue
Linder, William ....889 St. Marks Avenue
Lindridge, Edwin F. ...260 DeKalb Avenue
Lintz, William ....1352 Carroll Street
Lippold, William Edward,
221 S. Nicholas Avenue
Little, George F. ......469 Clinton Avenue
L'Episcopo, Joseph B.,
687 Bushwick Avenue
Lloyd, Ralph Irving ....14 Eighth Avenue
Lloyd, Thomas Mortimer, 118 Remsen Street
Long, John Hathaway ..110 Gates Avenue
Longmore, John A. .....158 Clinton Street
Longo, Thomas Joseph, 410½ Clinton Street
Lordi, George Hector ......26 First Place
Louria, Leon..........720 St. Marks Ave.
Love, Cornelius R. ......167 Clinton Street
Love, William Lathrop ..857 Lincoln Place
Ludlum, Walter D. ..362 Marlborough Road
Lundbeck, Charles J. ....107 Bergen Street
Lynch, Leo A. ....212 Brooklyn Avenue
Lancer, Thomas F., 424 West 147th Street,
New York, N. Y.
Lawrence, George J., 40 Murray St.,
Flushing, N. Y.
Leale, Medwin, 20 West Fiftieth Street,
New York, N. Y.
Lehman, Max, 161 Hallock Ave.,
Glendale, N. Y.
Lewis, David R. .... Whitestone, N. Y.
Lindsay, Walter ....Huntington, N. Y.
Linnehan, George A., 171 Shelton Ave.,
Jamaica, N. Y.
Linson, Kenneth Kenyon, 688 87th St.,
Woodhaven, N. Y.
Loper, Arthur C. ....Greenport, N. Y.
Louis, William I., 8643 104th St.,
Richmond Hill, N. Y.
Lowsley, Agustus S., 214 Madison Ave.,
Flushing, N. Y.
Luce, Charles A. ....Amityville, N. Y.
Ludlum, Charles H. .....Hempstead, N. Y.

M

McAveney, William Joseph, 134 Second Place
McCammon, Frederick J.,
167 Hancock Street
McChesney, Herman Franklin,
1188 Dean Street
McClelland, Lefferts A.,
78 McDonough Street
McEntee, James Edward, 196 Hancock Street
McGoldrick, Edward Vincent,
115 Russell Street
McKenna, Donald Esterbrook,
72 Hanson Place
McKenna, William Francis,
125 Gates Avenue
McLeod, John A. ....160 Noble Street
McNamara, Sylvester James,
369 Union Street
McQuillin, John Parker,
353 Seventy-fifth Street
MacCoy, Cecil ....184 Joralemon Street
MacDugall, Loone M., 124 Arlington Ave.
MacEvitt, James M. .....514 Ninth Street
MacEvitt, John Cowell ..1144 Dean Street
MacNaughton, Donald Stuart,
50 Gates Avenue
Macumber, John L. ......1240 Dean Street
McCollom, William E. ..1174 Dean Street
Magilligan, Francis J., 135 Bergen Street
Maggio, Benjamin Fassulo,
691 Bushwick Avenue
Mahnken, H. Chandler, 400 Hancock Street
Mahr, George J. ....98 Wilson Street
Malament, Menassah John,
1297 Carroll Street
Malone, Joseph W. ......8732 Bay Parkway
Menecke, Philipp ..1058 Bushwick Avenue
Mangan, Daniel Clarence ..95 Park Avenue
Manley, Mark ....261 Monroe Street
Manning, Charles Edward,
480 Putnam Avenue
Matheson, A. Ross,
St. Johns Pl. and Seventh Avenue
Matthews, Harvey Burleson,
643 St. Marks Avenue
Mausert, Gustav Adolph ..67 Hanson Place
Mayes, Harry Welday ....494 First Street
Mayne, Earl H., 139 Bay Seventeenth Street
Meagher, John F. W. ....92 Gates Avenue
Meagher, William C., 604 McDonough Street
Meara, James A. ..101 South Oxford Street
Menasse, Joseph Phineas ..592 Henry Street
Merrill, George Adams ..816 Ocean Avenue
Meury, John Bertrand, 785 Bushwick Avenue
Meyer, Johanes ....2038 Fulton Street
Mills, Henry M. .....902 President Street
Minton, Henry B. .....165 Joralemon Street
Mock, Johann Wilhelm ..328 Central Avenue
Moitrier, William ....454 Putnam Avenue
Moitrier, William, Jr. ..454 Putnam Avenue
Monaghan, Frank J., 1069 Bushwick Avenue
Mooney, Patrick J. ....132 Kent Street
Moore, Joseph Lester, 36 Pierrepont Street
Moore, Francis William, 98 Brooklyn Avenue
Moore, Samuel Edward, 1332 Myrtle Avenue
Moorhead, Robert L. 142 Joralemon Street
Morgenthaler, Herbert Jacob Wm.,
911 Bedford Avenue
Morris, Harold Arthur ..350 Ocean Avenue
Morrison, Robert J. ......1173 Dean Street
Morton, Henry H. ..32 Schermerhorn Street
Morton, Lawrence J.,
Fort Hamilton Parkway and 88th Street
Moses, Henry Monroe,
108 Prospect Park West
Moskowitz, Samuel N. ....131 Java Street
Mueller, Carl ....743 Bushwick Avenue

Murray, Archibald, Hoagland Laboratory, Brooklyn, N. Y.
Murray, Foster ......651 President Street
Murray, Patrick J. ....478 Classon Avenue
Myerle, David .....80 Willoughby Street
McCarthy, Timothy F., 5 Ray St., Jamaica, N. Y.
McCrea, Frederick L. .Port Jefferson, N. Y.
McMahon, Dennis Edward, 61 Warner Ave., Elmhurst, N. Y.
MacClymony, Dewitt Clinton, Northport, N. Y.
Macfarland, Ralph L., 53 Clinton Ave., Jamaica, N. Y.
McIvro, James H. .....Port Jefferson, N. Y.
MacLean, Burge P. ......Huntington, N. Y.
Magilligan, Lawrence P. A., Central Park, N. Y.
Malcolm, William J. ....Jericho, N. Y.
Mann, John ....Old Westbury, N. Y.
Markham, Convas L. ....Amityville, N. Y.
Marshall, Joseph H. ....Southold, N. Y.
Marshall, Samuel A., 327 Jamaica Ave., Long Island City, N. Y.
Martin, Arthur Chalmers, 80 Lenox Road, Rockville Center, N. Y.
Mencken, H. P., 327 Jamaica Ave., Astoria, N. Y.
Meynen, George Kissam, 43 Clinton Ave., Jamaica, N. Y.
Miles, Clarence C. ....Greenport, N. Y.
Moore, Edwin Syme ......Bay Shore, N. Y.
Morrissey, Joseph L., 63 Lamont Ave., Elmhurst, N. Y.
Moss, L. Howard, 114th St. and 86th Ave., Jamaica, N. Y.
Murphy, Charles C. ......Amityville, N. Y.

N

Nash, Philip Ingram, 524 Neptune Avenue
Nichols, Carroll Lea ..230 Hancock Street
Nichols, Louis Lee, 386 Stuyvesant Avenue
North, Nelson L. ......150 Hancock Street
Northridge, Agustus Pearce, 87 Halsey Street
Novelli, Joseph A. ......1011 Halsey Street
Newman, Leander A., 190 Main St., Port Washington, N. Y.
Niesley, Charles M. ......Manhasset, N. Y.
Nugent, John .... Southampton, N. Y.
Nugent, John Henry ...Southampton, N. Y.
Nutt, Samuel D., 1146 Woodhaven Ave., Woodhaven, N. Y.

O

O'Brien, James J. ....99 Berry Street
O'Connor, Charles George, 233 Brooklyn Avenue
Ogden, George Stewart, 1024 Ocean Avenue
Oginz, Philip ....490 Stone Avenue
Oguri, Kanzo ....214 High Street
Ohly, John Henry ..22 Schermerhorn Street
Otis, F. Burton ....369 Hancock Street
Owens, George C. ....275 Kingston Avenue
O'Connell, William L. ...110 Milton Street
O'Hanlon, George, Bellevue Hospital, New York, N. Y.
Onuf, Brinslow, 208 Montross Ave., Rutherford, N. J.
Overton, Frank ....Patchogue, N. Y.

P

Paffard, Frederic C. .....89 Remsen Street
Pallister, Stanley Wilson, 222 Jefferson Avenue
Palmer, George Hollis ..498 Greene Avenue
Parrish, John W. ....111 Montague Street
Parrish, Paul L., 52 South Portland Avenue
Pascual, William Vincent, 690 St. Marks Avenue
Patterson, Thomas F., 190 Eighth Avenue
Peake, Chester A. ....1854 Bedford Avenue
Pearlstein, Maurice Barrett, 309 Hewes Street
Pendleton, Judson Philbrook, 125 Park Place
Peterman, Charles P. ..809a Greene Avenue
Peterson, Winfield A. ..451 Fiftieth Street
Pettit, Henry S. ....106 Gates Avenue
Pettit, William Randolph ..1819 Avenue K
Pfeifer, Joseph Lawrence, 33 Orient Avenue
Pfeiffer, William ...368 McDonough Street
Phillips, Gray ....67 Hanson Place
Pierson, Ferrand Baker ....837 Park Place
Pierson, William H. .101 McDonough Street
Pilcher, James Taft .....145 Gates Avenue
Pilcher, Lewis Stephen ..145 Gates Avenue
Place, E. Clifford ....59 Livingston Street
Platt, Foster H. ....851 Lincoln Place
Polak, John Osborn ..20 Livingston Street
Pomeroy, Ralph H. ....93 Remsen Street
Pond, Erasmus Arlington..1093 Dean Street
Pool, William Pohlman ..166 Clinton Street
Poole, John W. .....1728 Voorhees Avenue
Porter, E. Pender ....1 Glenada Place
Potter, Alfred ....374 Sterling Place
Potter, Mary Emma, 305 Washington Avenue
Price, William H. ..98 Fort Greene Place
Pullman, James ....155 Reid Avenue
Parsons, Alfred H. ......Great Neck, N. Y.
Patiky, Joseph J., Huntington Station, N. Y.
Payne, Albert E. ....Riverhead, N. Y.
Pendill, Willoughby C. ..Huntington, N. Y.
Pershing, Edward H. .....Woodmere, N. Y.
Peterson, Frederick C. ..Smithtown, N. Y.
Pettit, Robert W. ...... Patchogue, N. Y.
Pflug, Henry Edward, 2450 Van Cortlandt Ave., Evergreen, N. Y.
Phipps, Howard Morton ..Hempstead, N. Y.

Q

Quinn, William James ..781 Forest Avenue

R

Rabinowitz, Harris Milton, 276 Buffalo Avenue
Rae, Alexander ....117 Henry Street
Randall, Edwin Thompson, 139 Hancock Street
Ranken, John Francis ......852 Park Place
Rankin, William H. ....151 Hancock Street
Rappold, Julius C. ...750 Flushing Avenue
Rathbun, Nathaniel Philip, 67 Hanson Place
Rauth, Emil ....695 Lafayette Avenue
Raynor, Frank C.....184 Joralemon Street
Read, John Sturdivant, 174 Clinton Street
Reb, John H. ....328 Jay Street

Redmond, Edwin Thomas, 1115 Carroll Street
Reed, George E. ......737 Putnam Avenue
Reichers, George H., 1411 Bushwick Avenue
Renaud, Pierre A. ......305 Sixth Avenue
Reque, Peter A. ....113 Montague St.
Reynolds, Willard G. ....1165 Dean Street
Rickard, Wilbur L., 390 Stuyvesant Avenue
Rink, Walter S. ......226 Hancock Street
Risch, Otto E. F. ....495 Third Street
Ritch, Amos Mead ....711 Putnam Avenue
Ritch, Orlando S. ......78 Halsey Street
Roberts, Dudley, 270 Park Avenue, New York, N. Y.
Robertson, Victor A. ....51 Eighth Avenue
Robinson, Nathaniel ....89 Halsey Street
Rogers, Hugh Edward ..51 Clark Street
Rohde, Otto Henry, 1037 Curson Avenue, Los Angeles, Cal.
Rome, Russell Murray, 246 Clermont Avenue
Ross, Walter H. ....217 Jefferson Avenue
Royce, Rubert S. ......200 Greene Avenue
Rushmore, Jacques Cortelyou, 477 Washington Avenue
Russell, Julien W. ....6 Plaza Street
Ryan, J. Frank ..82 Schermerhorn Street
Ryan, Lorme McDonnell, 38 Livingston Street
Rau, Leonard S. ....Lawrence, N. Y.
Rave, Adolph George ..Hicksville, N. Y.
Rhame, William ....Freeport, N. Y.
Riley, Francis Gerard, 97 Hardenbrook Ave., Jamaica, N. Y.
Rodger, David R., 8714 102nd St., Richmond Hill, N. Y.
Ross, C. A., .Jericho Turnpike, Queens, N. Y.
Ross, William H. ....Brentwood, N. Y.
Ross, William Holmes .....Sayville, N. Y.
Runcie, William H. ....Freeport, N. Y.
Runge, Otto Ernest, 87 Foxall St., Ridgewood, N. Y.

S

Salmon, Armond J. ......166 Sands Street
Sammis, George Frank, 98 Brooklyn Avenue
Sarason, Peter Benjamin, 488 Tenth Street
Scannell, Jno. Matthew, 364 Jefferson Ave.
Schaefer, Ernest L., 801a Willoughby Avenue
Schaffner, Philip M., 121 Joralemon Street
Schauf, Adam ....264 Stuyvesant Avenue
Schelling, Henry L., 264 Stuyvesant Avenue
Schenck, Herbert Dana, 75 Halsey Street
Schirmer, William C., 596 St. Marks Avenue
Schmidt, James M., 40 South Oxford Street
Schroeder, Frederick ......290 Park Place
Schroeder, William ..339 President Street
Schroeder, William, Jr., 184 Joralemon Street
Scofield, Charles Edward, 880 Park Place
Scott, Peter ......126 New York Avenue
Scrimgeour, Robert ....752 Carroll Street
Search, Charles J. ..453 Franklin Avenue
Searle, Marcus Fowler ....34 Plaza Street
Seidensticher, Richard Frank, 1147 Dean Street
Shann, Herman ....1453 Union Street
Shaw, Richard E., Long Island College Hospital, Brooklyn, N. Y.
Shaw, Fawcett W. ......1200 Pacific Street
Shay, James Joseph, 526 Forty-seventh Street
Shea, J. Denton ...28 Prospect Park West
Sheehan, George Agustine, 429 Clinton Street
Sherman, David ....466 Ninth Street
Sherman, Morris, 2959 West Thirty-second Street
Sherman, M. Mortimer, Kings County Hospital, Brooklyn, N. Y.
Sherwell, Samuel ..33 Schermerhorn Street
Sherwood, Walter Aikman, 72 Hanson Place
Shumway, Sanford O., 422 Lafayette Avenue
Sibbel, Armin Joseph, 882 Bushwick Avenue
Simmons, Warren Seabury, 1829 Caton Avenue
Simmons, William, 23 Schermerhorn Street
Simpson, J. Louis ....97 Park Avenue
Simrell, George Wallace, 151 Hawthorne Street
Skelton, Eugene Wilson, 294 Sixth Avenue
Skidmore, William E. .....395 Park Place
Slote, Samuel H. .....75 McKibbon Street
Smith, Alvarez H. ....382 Carlton Avenue
Smith, Archibald Delap ..1232 Dean Street
Smith, Edward J. ..2016 Albermarle Road
Smith, Esmonde Bathgate, 1159 Dean Street
Smith, George H. ....161 Hancock Street
Smith, Henry Mitchell, 184 Joralemon Street
Smith, Isaac Beckett, 991 Lorimer Street
Smith, Joesph ....123 Brooklyn Avenue
Smith, William Sidney, 370 Washington Avenue
Snell, Howard B. ..118 Joralemon Street
Somers, James Alpheus, 96 Greene Avenue
Spain, Purvis A. ....911 Greene Avenue
Spence, Thomas B. ....541 Third Street
Squibb, Edward Hamilton, 184 Columbia Heights
Sterling, John H. ......60 Greene Avenue
Stevenson, Robert ....97 India Street
Stewart, James Alexander, 1030 Bedford Avenue
Stickle, Charles Waldo, 86 Pierrepont Street
Stone, Charles Lucius....469 Clinton Ave.
Stone, Chester Tilton, 62 Pierrepont Street
Stone, William Livingston, 475 Seventy-fifth Street
Storck, Louis, 337 Seventy-seventh Street
Sturges, Purdy H. ......212 Garfield Place
Sullivan, John D. ..74 McDonough Street
Sullivan, Raymond P. ....270 Park Avenue
Swan, Eugene La Forrest, 312 Washington Avenue
Sampsell, Ward, River Crest, Astoria, N. Y.
Savage, William B. ....East Islip, N. Y.
Schirck, Frederick F. ....Mineola, N. Y.

Schmuck, J. Carl ....Lawrence, N. Y.
Schneble, John Peter, 711 Bigelow Avenue, Woodhaven, N. Y.
Schultheis, Daniel, 615 Sanford Avenue, Flushing, N. Y.
Schultz, Michael M., 10 Villard Avenue, Hollis, N. Y.
Schweikary, Frederick J., 26 Vietor Place, Elmhurst, N. Y.
Scorza, Salvatore R., 253 Radda St., Long Island City, N. Y.
Scovil, William Thomas, Church St., Richmond Hill, N. Y.
Seaman, Benjamin White .Hempstead, N. Y.
Sgier, Martin Joseph, ... Grant Avenue, Richmond Hill, N. Y.
Sheridan, Joseph P., 1002 Church St., Richmond Hill, N. Y.
Shipman, Elliott W., 8519 118th St., Richmond Hill, N. Y.
Shotwell, John Byron, South Huntington, N. Y.
Shuttleworth, James Evan, 108-17 86th Ave., Richmond Hill, N. Y.
Silliman, George Stephen . . Westbury, N. Y.
Siner, Emanuel, 8657 106th St., Richmond Hill, N. Y.
Skidmore, Melville . . . East Moriches, N. Y.
Slocum, Millard M., 303 Broadway, Far Rockaway, N. Y.
Smith, Alfred H., Springfield Gardens, N. Y.
Smith, George A., State Hospital, Central Islip, N. Y.
Smith, Harold Elsworth, 180 Lefferts Ave., Kew Gardens, N. Y.
Smith, Sidney E., 28 Forest Parkway, Woodhaven, N. Y.
Spiro, William Warren, 116 Third St., Long Island City, N. Y.
Squire, Frederick Duane, Stony Brook, N. Y.
Steele, William J. ....Baldwin, N. Y.
Steffen, Walther Carl August, 352 First Ave., College Point, N. Y.
Stevens, Harry E. ....Southold, N. Y.
Stoesser, Henry, Shaw Ave., Richmond Hill, N. Y.
Stokes, John Wallace .....Southold, N. Y.
Stone, William Metcalf, 117 Sanford Ave., Flushing, N. Y.
Story, Charles B. ....Bayside, N. Y.
Strong, S. Meredith, 616 Madison Ave., New York, N. Y.
Stumpf, Conrad Otto ......Queens, N. Y.

T

Tag, Charles H. .....284 Jefferson Avenue
Takami, Toyohiko Campbell, 176 Washington Park
Talmadge, Junius Parker, 173 Amity Street
Tanner, Ernest Ketcham, 1205 Dean Street
Tarbox, Harry R. ......1178 Dean Street
Taylor, John Mortimer ....5 Plaza Street
Tenopyr, Joseph ....1256 Ocean Avenue
Terrence, Joseph Gerard . . 80 Rugby Road
Terry, Walter Raymond . . 41 Linden Street
Thompson, William B., 1103 Lorimer Street
Thomson, Alec Nicol ......835 Park Place
Thunig, Louis Albert . . 1069 Bergen Street
Tieste, Louis E. . . 55 South Portland Avenue
Tilney, Frederick, 22 East Sixty-third St., New York, N. Y.
Todd, Joseph F. ......402 Sterling Place
Tong, George William ....519 Third Street
Townsend, Palmer ......355 Hancock Street
Truslow, Walter ....67 Hanson Place
Tepper, Abraham Samuel, Central Avenue, Far Rockaway, N. Y.
Terrell, Alan Greenleaf, Riverhead, N. Y.
Terry, Arthur H. ......Patchogue, N. Y.
Thomas, Joseph S., 259 Amity St., Flushing, N. Y.
Tibbetts, James T., 168 Mineola Boulevard, Mineola, N. Y.
Trask, James D. ....Highlands, N. J.
Travis, Wilbur Carlton . . Northport, N. Y.
Turrell, Guy H., Smithtown Branch, N. Y.
Tweddell, Francis ......Great Neck, N. Y.
Twining, Lewis A. . . Center Moriches, N. Y.

U

Upham, Roy ......300 McDonough Street

V

Van Cott, Joshua Marsden, 188 Henry Street
Vaughan, Ernest M. . . 102 Fenimore Street
Vause, Frank C. .....381 Franklin Avenue
Virdone, Paola ....31 Jefferson Street
Vogt, Clarence Bryant . . 498 Hancock Street
Vogt, Walter Eugene, 191 St. Nicholas Avenue
Vosseler, Theodore Luther, 390a Monroe Street
Van Winkle, Leroy P. . . 126 Rogers Avenue
Van Kleeck, Louis Ashley, Manhasset, N. Y.
Victor, Abraham William, 360 Boulevard, Rockaway Beach, N. Y.
Vogt, Benedict, Jr., 9706 106th St., Woodhaven, N. Y.
Voltz, Albert Louis, 8644 94th St., Woodhaven, N. Y.

W

Wade, Henry Albert . . . 495 Greene Avenue
Wadsworth, Emory M., 103 McDonough Street
Wallace, Wesley H. ......516 Ninth Street
Walmsley, Robert F., 468 Washington Avenue
Waluk, John ......161 North Sixth Street
Ward, Joseph Francis .....411 Ninth Street
Ward, Robert Grover, 2957 West Twenty-eighth Street
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Warren, Luther Fiske ....200 Hicks Street
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The Legal Status of the Pay Clinic*

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THE clinic or dispensary in a popular sense has heretofore been a place where poor persons received the benefit of medical aid, more or less through the charity of well-meaning citizens who gave liberally to certain institutions. To the medical man the clinic has afforded an opportunity of rendering useful service and an opportunity for broadening his field of medical vision. The clinic has been a place where that individual relationship, which has always been considered a necessity between a patient and a physician, has been subordinated to the financial needs of the patient. The statutory regulations of the State of New York concerning the practice of medicine have always recognized the necessity of having particularly known the qualifications of the medical practitioner. Because of this, preliminary education and training has been required in order to fit the applicant for license and registration. Not only has license been required, but registration likewise. Whenever individuals unlicensed and not registered have undertaken the general practice of medicine they have been met with the statutory provisions making the practice *personal* to the practitioner. In this State it has been held that a business corporation may not practice medicine and may not advertise to practice medicine. Peo. v. Dr. Weeks' Medical Institute, 126 App. Div. 950; Peo. v. Woodbury Dermatological Institute, 192 N. Y. 454, affirming 124 App. Div. 877. It has been held also that an individual hiring physicians to treat patients and himself obtaining the profits from the wholesale treatment, was guilty of practicing medicine unlawfully. People v. Gross, unreported decision of the Court of Special Sessions, referred to in the case of Peo. v. Lederman reported in 168 App. Div., pp. 240-241.

It has further been held that a druggist employing a physician to treat patients and sharing the profits of such treatment with the physician, practices medicine unlawfully (Peo. v. Morris Lederman), and likewise it has been held that a chiropractor seeking to practice chiropractice under an arrangement with a medical doctor was violating the statute. Peo. v. Scholz, decision by Magistrate Freschi in New York Criminal Reports, Volume 28, page 357. The statutes have specifically provided those cases in which the personal relations of the physicians to the patients in the general practice of medicine is excepted. The provisions of Section 130 of the Membership Corporation Law are as follows:

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*From a paper read before The Medical Society of the County of Kings on Feb. 21, 1922, by John G. Dyer, Counsel to the Society.

> Certificate of Incorporation—Five or more persons may become a corporation for the purpose of erecting, establishing or maintaining a hospital, infirmary, dispensary or home for invalids, aged or indigent persons by making, acknowledging, and filing a certificate, stating the particular object for which the corporation is to be formed; the name of the proposed corporation; the town, village or city in which its principal office is to be located; the number of directors, not less than three nor more than forty-eight; the names and places of residence of the persons to be its directors until the first annual meeting, and the time for holding its annual meetings. Such certificate may also specify the qualifications of members of the corporation with respect to their adherence or non-adherence to a particular school or theory of medical or surgical treatment; and the systems of medical practice or treatment to be used or applied in such hospitals, infirmary, dispensary or home.
>
> Such certificate shall not be filed without the written approval endorsed thereupon, or annexed thereto, of the State Board of Charities, and of a Justice of the Supreme Court, of the district in which the principal office or place of business of such corporation shall be located.
>
> On filing such certificate, in pursuance of law, the signers, thereof, their associates and successors, shall be a corporation, in accordance with the provisions of such certificate.

Under the State Charities Law, a dispensary is defined as follows:

> "Definition of Dispensary—For the purpose of this article, a 'dispensary' is declared to be any person, corporation, institution, association or agent, whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine or apparatus, provided, however, that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys or source other than the individuals constituting said dispensary and the persons actually engaged in the distribution of charities of said dispensary."

Section 291 provides for the license of dispensaries by the State Board of Charities, and Section 293 provides for the revocation of a license of a dispensary after due notice and opportunity for it to be heard if public interest demand and for just and reasonable causes. The Board is empowered to apply to the Supreme Court to revoke the license and annul the incorporation of any dispensary legally incorporated or conducted in connection with an incorporated institution before 1900 for wilful violations of the rules and regulations of the Board. Section 293 empowers the State Board of Charities to make rules and regulations and alter or amend them in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or appliances. These rules and regulations have been established by the State Board of Charities and the majority of dispensaries now operating in this State do so under certificate heretofore approved by the State Board of Charities.

The obtaining of surgical or medical treatment, on false representation, has been made a misdemeanor punishable by fine after conviction of not less than $10 and not more than $250. The legislative intent is clearly to furnish medical aid to the needy under strict supervision both of the institutions and of the patient. Educational institutions have, of course, the necessity for clinics for student advancement. The policy of supervising the field of hospital and dispensary service is one that must be determined by the medical profession with a view to the proper protection of the physician's right to earn a livelihood from the practice of his profession and with due regard for the rendering of public service of a general welfare nature. It would seem that the present statutory regulations are sufficient to meet the requirements of any existing situation concerning hospital or dispensary practice. What constitutes an abuse of dispensary practice is a matter of policy to be determined apparently by the State Board of Charities. It is the right of the physician and of the citizen to appear before the State Board of Charities and have a hearing on any contested question, concerning the establishment, the conditions or the regulations of dispensaries. It is the opinion of the writer that wherever in the judgment of the physicians there is an abuse of dispensary practice the remedy may be had by the proper presentation of the subject to the State Board of Charities.

The Legal Status of Chiropractic*

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CHIROPRACTICE as a means of treating disease or physical condition has become so active in the State of New York that inquiries are constantly being made concerning chiropractice as a system of treatment and concerning the right of the chiropractor to treat patients under the law. All references to the legal status of the chiropractor and chiropractice in this paper are meant to apply to New York State only. The practice of medicine is defined in the Public Health Law of this State and is as follows:

> "A person practices medicine within the meaning of this article, able to diagnose, treat, operate or prescribe for any human except as hereinafter stated, who holds himself out as being

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*From a paper read before The Medical Society of the County of Kings, on Feb. 21, 1922, by John G. Dyer, Counsel to the Society.

> disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

Under the statute the word "physician" means a practitioner of medicine and of osteopathy. The statute further provides that no person shall practice medicine unless registered and legally authorized to do so. The law provides the requirements for examination, license and registration of the medical doctor and the osteopath. The unlicensed practice of medicine is a misdemeanor, punishable by fine and imprisonment, or both. The specific exemptions of importance are made as to physicians in certain military service, certain hospital service, and persons manufacturing and fitting certain mechanical appliances, persons practicing dentistry, optometry and chiropody or administering family remedies or practicing the religious tenets of any church. The burden of establishing his legal right to practice medicine is upon any defendant charged with unlicensed practice.

Peo. v. Somme, 122 App. Div. 20, Affirmed 190 N. Y. 541.

And likewise that he comes within the exemptions provided by the Statutes. With the value of chiropractice as a means of treating physical conditions the writer is not interested. Chiropractice may or may not be beneficial. The writer is only concerned with the right to practice chiropractice and the legal rights of the chiropractor in New York State. It may be fairly well assumed as a legal fact, that the licensed physician, whether he be a medical practitioner or an osteopathic practitioner, has the right to treat his patients by the system of healing, commonly known and called chiropractice. It may be stated in a general way that chiropractice is the treatment of physical condition by the extraneous application of force, usually, if not always, through the hand, to the spine of the patient for the purpose of affecting nervous centers to the end that proper *adjustment* will be effected. Many definitions of chiropractice might be inserted here which would be sufficient to avoid any criticism of a fair statement of what chiropractice is. The writer does not deem this necessary for the reason that, as heretofore stated, he is not interested in the theory or actual practice of chiropractice, but only in the legal right of the chiropractor. In many cases the chiropractors themselves differ in their statements of what chiropractice is and what its effects are. It may further be well accepted that the purpose of chiropractice is to either cure or treat or alleviate human disease, pain, injury, deformity or physical condition. It unquestionably is a system of healing, using healing in its broad sense. The statutory definitions of the practice of medicine have been explained in the decisions of the Courts of this State. In the case of Peo. v. Allcutt, 117 App. Div. 546 Affirmed 189 N. Y. 517, Mr. Justice Clarke said:

> "To confine the definition of the words 'practice medicine' to the mere administration of drugs or the use of surgical instruments would be to eliminate the very cornerstone of successful medical practice, namely, the diagnosis. It would rule out of the profession those great physicians whose work is confined to consultation, the diagnosticians, who leave to others the detail of practice. Section 140 of the Public Health Law provides

> that 'no person shall practice medicine . . . unless licensed by the Regents and registered,' and Section 146 of the said statute (as amended by Laws of 1901, Chap. 645), provides that the Regents' examinations must be made up of 'suitable questions for thorough examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, and therapeutics, including the practice and materia medica.' Diagnosis would, therefore, seem to be an integral part of both the study and practice of medicine, so recognized by the law as well as common sense. The correct determination of what the trouble is must be the first step for the cure thereof. It is a well-known fact that the disease popularly known as consumption may, if discovered in time, be arrested, if not entirely eradicated from the system, by open air treatment in the proper climate, and that in such case use of drugs has been practically given up. Would the physician, in such a case, who, by his skill, discovered the incipient disease, advised the open-air treatment and refrained from administering drugs, not be practicing medicine? It may be difficult, by a precise definition, to draw the line between where nursing ends and the practice of medicine begins, and the Court should not attempt, in construing this statute, to lay down in any case a hard and fast rule upon the subject, as the Courts have never undertaken to mark the limits of the police power of the State or to have precisely defined what constitutes fraud. What the Courts have done is to say that given legislation was or was not within the limits of the police power, or that certain actions were or were not fraudulent."

In that case the defendant was the practitioner of mechano-neural-therapy and treated without drugs. That the statute may be violated by the practice of medicine illegally without drugs is so clearly established in this State that the writer will not refer to any specific cases. The chiropractor does not claim any right to administer or prescribe drugs but on the contrary specifically denies their value. The right of the State to determine the qualification of persons practicing medicine and to pass prohibitory regulations has been well stated in the case of Peo. v. Mulford, 140 App. Div. 716, affirmed 202 N. Y. 624. The Court quoted with approval the words of Dent. v. West Virginia, 129 U. S. 114.

> "The power of the State to provide for the general welfare of its people authorizes it to prescribe such regulations as, in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity, as well as of deception and fraud. . . . The nature and extent of the qualifications required must depend primarily upon the judgment of the State as to their necessity."

All chiropractors who are not licensed either as doctors of medicine or doctors of osteopathy are practicing medicine within the definition of the practice of medicine and the decisions of this State on what constitutes the practice of medicine. As such practitioners the absolute statutory requirement is that they be licensed in order to perform their acts legally. Without resorting to specific decisions in the cases of chiropractors convicted for practicing medicine unlawfully, it may be said as a definite and absolute fact that the practice of chiropractice by an unlicensed individual is an absolute and unqualified violation of the present law of the State of New York, and the chiropractor is absolutely and undeniably guilty of a misdemeanor when he practices his specialty. However, this statement is not a dogmatic one on the part of the writer. The Courts of Special Sessions in this city have convicted and sentenced at least fifty chiropractors during the past ten years. The Appellate Division of the Supreme Court in the case of Peo. v. Ellis has so held. In that case Ellis claimed to be a chiropractor or doctor of chiropractice, having graduated from an institute at Davenport, Iowa, known as the Davenport Institute of Chiropractice, in June, 1912. In July following, without having any further examination or receiving any license in this State, he began practice in Brooklyn. He had a sign, with regular office hours, and as witness he admitted having treated about two hundred patients for ailments of the stomach, chest, and spine; also for nervousness, hysteria, and diseases coming from pressure on the nerves. The Court held that the defendant was guilty of a misdemeanor, for which he had been convicted. This doctrine was again affirmed in the case of Peo. v. Robert Pauwels, a chiropractor, recorded in 177 App. Div. 907. The writer desires to state that in his experience, men seeking to be licensed to practice chiropractice in New York State are, in the great majority of cases, uneducated, ignorant, and with little or no scientific knowledge. In the majority of instances they are graduates of alleged schools which give courses by correspondence or through "professors" whose education is wholly deficient. The duty of suppression of the illegal practice of medicine undoubtedly belongs to the State. The State has, however, by statutory provisions, designated certain powers to State and County Medical Societies. The active use of these powers in the prosecution of the unlicensed practice of medicine requires the expenditure of money. The real reason that the chiropractor is able to day to flaunt the practice of his alleged profession in defiant violation of law is that the medical men do not spend the necessary money to investigate and prosecute the complaints of unlicensed practitioners. Because of the natural desire for privacy of the individual treated by a chiropractor, the use of witnesses in prosecution of treated individuals becomes very difficult. The citizen does not desire the annoyance of prosecution. Complaints must be made by practical necessity by detective agents. The police of the State are at present so taxed by conditions that the investigation of alleged violations of the medical-penal laws are practically confined to those which charge the commission of felonies. So long as there are ills to be treated there will be men who will seek to treat these ills by alleged specialties. The duty of investigating the specialty and prescribing the character and qualifications and limitations of men who treat the human body must of necessity be a function of the State, to be performed through its educational authorities. The burden is upon the licensed medical man to take an active and militant interest in proposed statutes affecting the general control of public health. Such militant action will prevent the licensing by statutory exemption of the fraudulent fakirs who seek the right to treat a suffering public without the necessity of acquiring any academic or scientific education as a preliminary requirement.

Types and Treatment of Chronic Nephritis

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IF ONE wished to choose a subject in which very great advances have been made in recent years, he would not select Nephritis, and particularly he would not choose its differentiation of types and its treatment. The functional kidney tests and studies in blood chemistry have been of material assistance especially in diagnosis and prognosis, also to some extent as a guide to treatment, and make us hopeful of increasing our scant knowledge of the causal factors of the metabolic disturbances occurring in Nephritis.

Many classifications of the disease have been offered in the past and a new one appears every little while. Of these, the simple ones are the only ones which have survived in the minds of most of us. Those based upon pathology are of little clinical value.

The commonest division for many years has been that which recognizes parenchymatous and interstitial forms. In the former, changes are supposed to occur mainly in the epithelium of the tubules of the kidney and in the latter the changes are said to be principally in the stroma.

Delafield, in his notes published in 1904, and in his lectures for years previous to that date, said that in his experience this classification did not hold. Most cases, he said, were a diffuse Nephritis with changes in glomeruli, epithelium of tubules and stroma, and that no one of these elements was regularly involved. He classified the two main types as Chronic Diffuse Nephritis with exudation and Chronic Diffuse Nephritis without exudation, the exudation referring, of course, to the presence of albumin in the urine and serum in the tissues.

Volhard and Fahr[1] in 1914 brought forth a classification which was given much attention in the literature, a good many writers accepting it rather prematurely, it would seem, at least if it is to be regarded from a clinical point of view. Without taking up their classification in a complete way, we may say that they mention a Nephrosis, in which the lesions are said to be almost entirely in the tubules, a Glomerulo-Nephritis with the main lesions in the glomeruli, believed by them to be always due to infection, mixed forms, Benign Hypertension and Renal Sclerosis. The usual severe chronic type with low phthalein, retention of non-protein nitrogen in the blood, fixation of specific gravity and retinal changes, is usually a Glomerulo-Nephritis, according to Volhard and Fahr. Without doubt, certain cases do fall into the types described by them, but an autopsy is necessary to so place them.

As to whether or not Benign or Essential Hypertension deserves to be considered as a clinical entity—this is too long a question to take up in detail here. There are good arguments on both sides, but as far as the experience of the writer goes, the patient usually encountered with persistent high systolic and diastolic pressures, even with good kidney function as judged by the usual tests, does not run a course which is benign. He may not die of uremia, but unless an autopsy furnishes proof to the contrary, the idea persists that the hypertension may have been the only manifestation of a Nephritis.

W. de B. MacNider[2], of the University of North Carolina, published in 1920, an article upon Nephropathies. He made use of some 450 animals, mainly dogs, in his experiments, which extended over a period of 14 years. Some of the animals had naturally acquired Nephropathies, and in some the kidney condition had been produced by uranium or mercuric chloride. His conclusions minimize the importance of the glomerulus as a functional unit and emphasize the relative importance of the tubular epithelium. He presents some evidence to show that as long as the tubular epithelium is intact, the kidney will functionate well, as judged by the usual tests. He also believes that the tubular epithelium is of more importance in maintaining a normal acid-base equilibrium than is the vascular mechanism.

These divergent views emphasize the fact that there is no consensus of opinion as to the exact function of the glomerulus or of the tubule. The modern theory of Cushny[3] on normal kidney function is the one most generally accepted at present. According to this, the secretion of the urine is accomplished by two processes—filtration occurring in the glomerulus, purely physical in nature and reabsorption occurring in the tubules and dependent upon the activity of the epithelium. Threshold bodies, such as glucose and chlorides, are taken up by the cells of the tubules and returned in whole or part to the plasma, while substances which have no threshold, such as urea, are rejected and pass out through the ureter. The composition of the urine is thus determined by the balance between glomerular filtration and tubular reabsorption in relation to the blood plasma.

Christian[4] expresses the belief that the best we can do at present with the classification of Chronic Nephritis is to divide it into Chronic Nephritis with Edema and Chronic Nephritis without Edema. This is practically a return to the classification of Francis Delafield whose writings of 30 years ago are well worth reading today.

Some writers, as Foster,[5] classify the cases on the basis of physiological function rather than on anatomic lesion, as those with Nitrogen retention, those with salt and water retention, and mixed types where both of these functions are disturbed.

Treatment.—The time allowed does not permit a full discussion of treatment. Only a few points will be considered. One must think of the periods when the disease is temporarily acute, as well as those when the course is of the usual chronic type. Emerson[6] has expressed the view that Chronic Nephritis is the result of a succession of acute diseases of the kidney distributed over years and that each acute disturbance adds to the permanent injury to the kidney. Whether or not this is so, or whether Chronic Nephritis is an essentially progressive disease due to some unknown metabolic disturbance, we do not know. The latter is the older view. If repeated injuries to the kidney do occur, they are theoretically most often due to focal infections and the removal of these foci should stay the progress of the disease. Christian[4] believes that even if the disease is caused by infection of a bacterial nature, by the time we come to treat the patient the damage has been done and the removal of the supposed source of infection accomplishes but little. This is, of course, not meant as an argument against this proper procedure, but emphasizes what we must admit, that usually we see no improvement in the patient with Chronic Nephritis, as a result of our efforts along these lines. Indeed, as one looks back upon the paucity of good results achieved, he is tempted to protest against the prominence given this part of the treatment in the current literature. Perhaps, however, the improvement obtained in the exceptional patient justifies this attention. Christian[7] in another publication says that the present "almost indiscriminate removal of teeth and tonsils are fads run riot. If tonsils are infected, they should be removed, but if any doubt exists on this point, they should be let alone as far as any causal relation to Nephritis is concerned." He also feels that great numbers of teeth are being uselessly extracted.

Diet.—In choosing a diet for a patient suffering from Chronic Nephritis it is a common mistake to give too small an amount of food. An under-nutrition diet given over a long period of time is at least as harmful as an over-abundant one. Fats and carbohydrates are not excreted by the kidney and therefore need not be especially restricted. The claim of Epstein[8] that the increased amount of fats sometimes found in the blood, in the type of Nephritis with exudation, has any especial significance, has not been substantiated.

As to the amount of protein which is desirable in this disease, as in health, this is still an open question. With a patient at rest, a diet of from 2000 to 2500 calories, of which 40 to 70 grams is protein, is probably about right as an average. One must, of course, be guided whenever possible by the amount of non-protein nitrogen in the blood. It has been shown by Mosenthal[9] and others, that reduction of the amount of protein in the food will usually reduce the amount of non-protein nitrogen in the blood, although the blood pressure is not usually lowered. It is a good plan to vary the different kinds of protein, as meat, milk, eggs and vegetables. A pint of milk, 1 egg, and 1 ounce of meat or fish contain approximately 30 grams of protein. This, with the proteins added by bread and vegetables, may be taken as a rough measure of the minimum daily protein requirement for a continued period of time. It has not been shown that the red meats are any more harmful than the white. The proteins of meat, fish, eggs and milk are superior to the vegetable proteins for repairing tissue waste. Meat soups and organs high in purins should be excluded as the purin bodies have no nutritive value and are eliminated by the kidneys.

Treatment of Special Symptoms

Edema.—Salt and water are restricted. The urinary output should be about 2/3 of the intake. If it is less than this, the amount of water should be further reduced, especially if the patient is gaining weight. One, of course, feels safer in cutting down the fluid intake if the amount of non-protein nitrogen in the blood is not high. Fortunately the usual patient with salt and water retention does not show nitrogen retention, except late in the disease. Digitalis is often of help and the cautious use for 2 or 3 days at a time of diuretics such as theobromine sodio-salicylate, theocin or caffeine, may be of benefit. Free catharsis is usually employed, sometimes to advantage. Until we have a more accurate knowledge of the real cause of edema, our best efforts will not infrequently be of no avail.

Hypertension.—Remedies employed to reduce the blood pressure are usually not effective. If glomerular filtration is the first process in the secretion of the urine, it seems quite likely that the high pressure is needed to carry on this filtration through the diseased structure of the glomerulus and capsule. Perhaps it is fortunate that drugs do not act more powerfully in this condition. The time-honored remedies, nitroglycerin and the iodides, seem to the writer to be of little value. Sodium bromide and Chloral are sometimes of help. When the pressure is thought to be dangerously high, the measures found to be most generally useful are rest in bed and a sub-caloric diet for a short period of time. Bleeding is effective and finds its most frequent indication when apoplexy is feared or when the toxaemia becomes extreme. It should be undertaken only with reluctance, however, as the loss of blood is usually not well borne. Allen[10] has laid stress on a rigid reduction of the amount of salt in the diet as a means of reducing the pressure. This does not seem to be of much use.

Acidosis.—When acidosis occurs it is probably due to insufficient excretion of normally formed acids. The kidney in health has the power of varying the ratio of excretion of acid and alkaline phosphates and it is believed that sometimes in this disease this power is lost. That the milder grades of acidosis are common in Nephritis, there seems no doubt. At least part of the dyspnea is not uncommonly due to acidosis. Frequently a combination of acidosis and myocardial weakness will cause dyspnea and some of the most satisfactory results as far as the comfort of the patient goes have been obtained by the recognition of this combination and treatment by the careful use of alkalies and digitalis. The severer grades of acidosis described by Chace and Myers[11] are less frequently seen but are not uncommon, especially in hospital practice. Here the intravenous use of sodium bicarbonate is usually indicated.

Uraemia.—We do not know what toxic substance causes uraemia. A low protein diet is probably of prophylactic value. A diet of lactose, fruit juices, and water for a few days is desirable and favors the elimination of nitrogen. Measures are employed to increase elimination through bowels, kidneys and skin. General hot packs probably do little good and may do harm by removing large amounts of water and leaving the toxins in a more concentrated form in the blood and tissues. They are depressing. Milder measures, such as hot sponge baths and hot applications to the kidney regions, are probably more desirable. Bleeding is sometimes indicated as the most rapid means of removing toxic products from the blood.

In conclusion—if an explanation is in order for presenting ideas about Nephritis which are not new, two facts may be offered: first, that the treatment of the disease is a daily problem, and second, that one may search the literature in vain for any idea or procedure, new and startling, which has stood the test of time.

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Hemorrhage From the Stomach*

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VOMITING with blood is always a matter of great import to the individual concerned and worry to the doctor. It becomes a matter of prime importance to definitely ascertain the origin and cause of the bleeding. Sir Berkeley G. A. Moynihan, in a lecture at the Academy of Medicine, New York, in 1920, stated that in about 75 per cent of the cases of hematemesis the etiological factor responsible for the gastric hemorrhage, was remote from the stomach.

Since the days of Dieulafoy, when he first described, "the exulceratio simplex," many authors have appeared in the literature with reports of cases on this subject of hemorrhage from the stomach, of either known or unknown origin. These two cases that I am reporting tonight, are records of two male adults, who had several attacks of hematemesis. Both these patients were operated upon, the cause of the bleeding revealed as evidenced on the operating table. The cause of hematemesis in both cases, was outside the stomach.

CASE ONE

"Hematemesis with duodenal ulcer symptom-complex, due to chronic appendicitis."

Mr. C. S.; age 50 years; first came under my care in 1919.

Family history—Father died at 48, due to accident; mother died at 78 of cerebral apoplexy.

Past personal history—No serious infectious diseases; no history of any operations; no history of lues.

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*Read before the New Utrecht Medical Society, Brooklyn, May 11, 1922.

Patient had enjoyed good health, except for gastric disturbances, which he has had at frequent intervals, during the past fifteen years. About fifteen years ago had an attack of hematemesis and was in bed for seven weeks, was perfectly well for five years when he had another attack of hematemesis and was in bed for six weeks. He stated that he was treated for a gastric ulcer. From 1913 to 1919, patient would have occasional heart burn, and distress about two hours after meals, with frequent belching of gas. When he came under my care in December 1919, he complained of pain in the mid-epigastrium just below the ensiform cartilage about one to one and a half hours after meals. Patient always felt well immediately after eating, two hours later symptoms returned. Occasional heart burn and belching of gas. Bowels were regular and there were no other symptoms referable to disturbances of any organ or systems of organs.

Physical examination—Showed an adult of about 50, of poor nutrition. Teeth in poor condition. Tonsils hypertrophied and cryptic. Heart and lungs showed no abnormal findings. Examination of the abdomen showed a small epigastric hernia just below the umbilicus, with tenderness in the left epigastrium and posteriorly to the left of the lower dorsal vertebra. There was no tenderness in either the right or left lower quadrant. Rectal examination was negative.

Blood pressure—128-80. Urine, negative. Weight, 122½ pounds.

Gastric contents—December 1919. Ewald test meal, food removed every thirty minutes.

30 min. F. Hcl. 15	Total acidity, 30
60 min. F. Hcl. 30	Total acidity, 45
90 min. F. Hcl. 60	Total acidity, 90
120 min. F. Hcl. 60	Total acidity, 80

In December 1919 the fluroscopic examination showed a small hypertonic stomach, active peristalsis, duodenum did not fill out regularly on any plate, and was tender on palpation.

Six hours examination showed a small residue in the stomach, with the head of the barium column at the splenic flexure. Appendix visualized on the 24, 48 and 72 hour plates, about five inches in length, filled in segments, pointing inward and fixed in the same position as evidenced on all examinations.

In view of the clinical history the diagnosis of duodenal ulcer was evident. The X-ray diagnosis was: duodenal ulcer, chronic appendicitis.

Hematemesis with duodenal ulcer is not a rare condition. In view of the fact that the roentgenological evidences of a diseased appendix were found, the question arose as to whether or not the gastric hemorrhage was due to the appendicular disease.

On January 13, 1920, patient was admitted to the Jewish Hospital and was operated upon the following day. A thorough exploration of the stomach, pylorus, and duodenum failed to reveal the presence of any lesion. The stomach was not opened, but the opinion was held, that if this man had an ulcer of the duodenum, during these many years, it surely would be hard and indurated. A fissured condition of the mucous membrane of the pylorus in association with pyloro-spasm, of reflex origin, may sometimes occur. These conditions are only temporary and usually heal under proper non-surgical treatment, but often produce the clinical picture of duodenal ulcer.

Examination of the gall bladder region was negative, but the examination of the appendix showed it to be about six inches in length, bound down in several places, causing an obstruction of the lumen. After removal one could see one macroscopical examination definite pathological changes. The epigastric hernia was attended to. In those cases where an epigastric hernia is present and the patient has a duodenal ulcer symptom-complex, an ulcer of the duodenu, is usually found at operation. The exact relationship between duodenal ulcer complex and epigastric hernia has never been fully ascertained. Following the operation of appendectomy in the early part of 1920, until the present day, this patient has been free from all signs and symptoms. He is on a full diet, maintains a good weight, and is able to attend his regular duties in a grocery store.

I fluroscoped this patient recently and found a normal acting stomach in all respects. The duodenum could be filled out regularly and was not tender. Six-hour examination showed the stomach to be empty and the head of the barium column at the hepatic flexure.

Points of interest to be emphasized in this case are:

Epicrisis.

1. The association of the hematemesis with chronic appendicitis. Although this condition has been frequently called attention to, from the literature, the exact relationship between disease of the appendix and gastric bleeding, is still a matter of conjecture.
2. Definite history of duodenal ulcer symptom-complex, and the presence of an epigastric hernia, in which an ulcer was not found on operation.
3. An appendectomy is sufficient surgical intervention, where the appendix is found to be diseased and that despite all clinical and roentgenological evidences of a duodenal ulcer, gastro-enterostomy should not be performed ,unless there are definite evidencs of the presence of an ulcer.
4. Where there are definite roentgenological evidences of a diseased appendix, symptoms of duodenal disease are probably due to reflex pyloro-spasm.
5. This patient is absolutely well since the removal of his appendix.

Case Two

"Repeated hematemesis in case of duodenal ulcer." (Operated upon, gastro-enterostomy and pyloric exclusion done.)

Mr. H. P.; age 37 years; married; Russia; worker on pocketbooks. This patient first came under my care October 10, 1919.

Family history—Negative.

Past personal history—In 1912 stomach disturbances began, patient began to complain of pain, heart burn, belching one to two hours after meals, these symptoms would abate after meals and then recur. He was then free from any symptoms until 1914. In 1914 when in apparent good health, he had his first attack of hematemesis. There was no history of gastric disturbances at the time, nor can data be obtained which might make one suspect that he had a duodenal ulcer. He was taken to a hospital, treated for a month medically and then operated upon. The appendix was found to be normal, but removed. However, a large indurated ulcer of the duodenum was found. An operation of exclusion of the pylorus was performed, with a posterior gastro-enterostomy (near the pylorus).

For a period of three years after the operation he felt perfectly well, when he again suddenly vomited with blood (second attack). After medical care for six weeks patient returned to his regular duties. He was perfectly well, complained of no pain or gastric distress of any kind until August 1919, about five years after his first attack and two years after his second attack, when he had another attack of hematemesis. He has been under my care since (1919) then, has been in good health, enjoying his food and attending to his duties. However, in December 1921 he had a fainting spell and his stools became tarry for five days. He had no vomiting of blood with this attack, but all other symptoms and signs of gastric hemorrhage. To this day he is on a careful diet and medication, and is feeling fine.

Fluroscopic and roentgen examinations at intervals during the past three years have shown a patent gastro-enterostomy opening, but the pyloro-duodenal region could not be clearly visualized. I fluroscoped Mr. H. P. the early part of this year (about two months after his last attack of hemorrhage) and found that the pylorus was distinctly occluded, no food whatever passing into the duodenum where the ulcer had been found originally. The gastro- enterostomy opening, however, was patent, the food emptying into the jejunum very rapidly. There was no tenderness at the gastro-enterostomy opening, no irregularities, no abnormal peristalsis, no other evidences of a gastro-jejunal ulcer.

In review the case it is interesting to note that following the operation eight years ago, all symptoms of duodenal ulcer have been absent and there have been no evidences to arouse any suspicion of a gastro-jejunal ulcer or any other complications, occasionally following an operation as gastro-enterostomy.

Hematemesis, on two occasions, and intestinal hemorrhage last December are the only signs which have been present of activity of the ulcer since the operation. The important question arises as to the origin and cause of the bleeding. I personally feel that the ulcer is the factor responsible in this whole picture. The exact reason for vomiting blood in the two previous attacks and intestinal bleeding in the last attack (December 1921), I cannot state with positiveness. It may be fair to assume that the original exclusion operation of the pylorus was not successful, and that he bled into the stomach and then vomited, one might assume that further progress was a stenosis of the pylrous due to natural changes in the ulcer area, and that in this last attack the evidences of hemorrhage were all intestinal (that is duodenal).

Fluroscopic examination recently showed the pylorus completely occluded and the gastro-enterostomy opening patent and functioning well. The cause of this last hemorrhage from a duodenal ulcer, where there is an exclusion of the pylorus, may be accounted for perhaps by recurrent infections by way of the blood stream.

Epicrisis: I have reported these two cases to show that hematemesis in an individual who has a duodenal ulcer symptom-complex requires complete investigation and that one of the greatest aids we have for determinating findings is the fluroscope. And that the further important fact that hematemesis is most often due to pathological conditions remote from the stomach.

The Value of Case Records

William E. Lippold, M. D., F. A. C. S.
Brooklyn, New York

THE plan and scope of this paper is not only to show the inestimable value of complete and comprehensive case histories, but also to stimulate and encourage the taking and keeping of same by the general practitioner.

In these days, when efficiency is the key-note of human progress, how can we of the medical profession afford to be inefficient? When every successful business or corporation has its elaborate system of records, how can we, in our business of preserving human life and health, be less efficient than they?

We may all be good doctors, and succeed in getting most of our patients well, but imagine if you will, the vast benefit to humanity if we had records of our cases, which could be compared and statistics derived therefrom. Benefits not only in our curative field, but in that at present vaster one—Preventive Medicine.

To my knowledge, little or nothing has been writen on this important subject. Possibly because it was presumed that every one practising medicine or surgery, knows all about the taking of a patient's history. I will grant that they do or did, but years of neglect, indifference, or careless methods have caused them to forget.

Investigation has shown that a great many doctors do not keep case records. It is either because they will not or from some attempts that I have seen, have forgotten how. By taking and keeping case histories, I mean not only the asking of questions and receiving of answers, as an aid in the diagnosis of a case, but the actual written record of the answers, and the physical examination findings. And do not forget that the pathologist and the laboratory are of paramount importance in the treating of even the simplest cases. Many a tonsilectomy or even circumcision would not have resulted fatally, if a coagulation test or urinalysis had been done pre-operative.

The American College of Surgeons in an article on Hospital Standardization, shows that since 1915, 74 per cent of the 100 bed hospitals of the United States and Canada have adopted the minimum standard of service as outlined by the college. This minimum standard is in essence, an arrangement by which the hospital can assure the patient the best care known to the science of medicine and surgery. Many hospitals of less than 100 beds are also complying with the minimum standard, although I regret that there are a number of institutions and sanitaria, which even in this age of progress, allow patients to be operated upon and treated without any attempt at record keeping. These institutions are and should be frowned upon by all of us who are attempting to give the patient a fair and square deal.

In the afore-mentioned minimum standard of service great stress is laid upon accurate and complete case records. An accurate and complete case record is one which includes the personal history, the physical examination, the clinical, pathological, and X-ray findings when indicated, a working diagnosis, treatment — medical or surgical, progress, and a final diagnosis.

Why not let us apply a minimum standard of service in our private practices? Why let our patients wait until they get into a hospital before getting the full benefit of our skill and science?

Dr. Arthur E. Hertzler of the University of Kansas, in his book, "Clinical Surgery by Case Histories," cites a case of "Retained Placenta Simulating Deciduoma Malignum," in which a hysterectomy was done, and comments as follows: "On further questioning, it was discovered that at the time of the alleged miscarriage, a year ago, she had pains and flooded. Since she continued to flow afterwards and the uterus did not grow, she concluded she has miscarried at, as she estimated, five months. At the time her history was taken, her statement that she had miscarried at five months was taken at its face value. Had the details been gone into, an exact diagnosis might have been made and the proper treatment—curettage—instituted. The fetus expelled in the hospital had evidently lain dormant a year. Details in the history are sometimes tremendously important."

How many times have we all had patients come in with their own diagnosis. For example—indigestion, gastritis, constitpation, which we were apt to accept at their face value and prescribe for, whereas had a complete history and physical examination been taken and done would have disclosed beginning gall-bladder disease, which according to Deaver is oftimes secondary to chronic appendicitis, gastric or duodenal ulcer, or even malignancy. Opportunity knocked at the door, we had the open sesame at hand and both were ignored. If any of my readers will be inspired to try the taking and recording of a case history, I can assure them that great benefit will accrue not only to the patient, whose welfare is of prime import, but also to the physician himself. Sit down to your next case, write and analyze the personal history, write down the results of your physical examination, and you will be surprised how much more thorough same will be, and possibly how many things will be evident which before you have overlooked. Make and record a diagnosis.

All of which takes a little more time, but surely the results obtained will be worth it.

The graduate and interne of today is being well trained along these lines, and the practitioner who refuses to fall in line with progress will find his clientele slipping from him. Let us see a few cases less a day, and give those we see the best. Furthermore, when the people see that they are getting real scientific service they not only will not want but will not allow compulsory health legislation.

Let us briefly enumerate some of the many advantages of adequate case record:

First and most important, the welfare of the patient; second, the satisfaction of the physician as an artisan who sees a work well done; third, the medico-legal aspect, in which the record is the *sine qua non;* fourth, the systematizing of the practice of medicine; fifth, the great value of records for reference and the compiling of statistics; and lastly even from a mere mercenary of selfish motive, the man who shows sufficient interest in his case to take and record a complete case history, will have and merit a worth-while clientele.

In conclusion let me attempt to show what an office record should consist of:

Name, address, date.

Personal history, comprising age, sex, civil condition, occupation and habits. Family history for T. B. or malignancy, or specific disease.

Chief complaint, date and mode of onset, symptoms, course.

Past history, disease from childhood, surgical history, if any.

Menstrual and obstetrical history.

Physical examination, to include temperature, respiration, pulse, rate and character.

Weight, now and previous; blood pressure.

Head, neck, chest, abdomen, genitals, reflexes, etc.

Laboratory findings to include urinalysis, blood chemistry, and X-ray reports, if any.

A working diagnosis based on history and examination.

Treatment—medical or surgical, with results and a final diagnosis. Follow-up notes where same can be obtained.

It is not my purpose to go into the details of history-taking, but for any who have gotten out of the habit, or need brushing up, I am taking the liberty of referring to Dr. Chas. A. Gordon's papers on, "Suggestions for Gynecological Diagnosis in General Practice" and "Hospital Records."

Notes on Infectious Jaundice

B. A. Fedde, M. D.
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In the period from July 6, 1921, to February 29, 1922, twelve cases of gastro-duodenitis with jaundice came under my observation. Two were brothers, two were sisters; there were a brother and sister, and a little girl and her grown brother-in-law, who was a constant visitor at her house.

This experience is about five times the normal of my practice for a similar period of time.

I confess that I have no detailed clinical notes nor laboratory work to offer; the cases were all found in the course of private practice, and their significance was not realized until recently.

Case 1.—M. K.; female; 12 years old; living in Thirteenth Street near Eighth Avenue.

Was seen July 6, 1921. Had been staying at Rockaway Beach. Felt badly for about a week; slight fever and general malaise. Then she seemed to get well and was sitting up for a day or two. Began to eat, but in about three days commenced to vomit incessantly. This continued for about five days, when the nausea subsided. Jaundice appeared about three days after onset of vomiting; lasted two or three weeks.

Urine showed bile present.

Case 2.—O. L.; male; 7 years old; 58th Street near 8th Avenue; was seen by my friend, Dr. Skelton, in the last week of August 1921. He was seized with severe vomiting, followed in two or three days by jaundice. Was recovering when I returned from my vacation.

Case 3.—B. L.; female; 5 years old; sister of the preceding; became sick September 25, 1921, with vomiting. Was seen September 27 and was then jaundiced. No history of prodromal fever was offered or inquired after.

Case 4.—C. O.; male; 33; single; sailor; Fifty-third Street near Seventh Avenue. Was seen November 10, 1921. No prodormal history was offered or asked. Vomited everything, even water. Abdominal pain with the retching. This continued for four days. Some diarrhea. Jaundice appeared on the fourth day and the nausea subsided. Was not seen subsequently.

Case 5.—A. F.; male; 11; Ninth Street, near Seventh Avenue. Became feverish November 20 and felt heavy, sleepy, and chilly. Some cough. Rales in right upper lobe. Temperature about 102 degrees. Was diagnosticated influenza. Was apparently well again November 22 and went to school. Began to vomit in afternoon of November 23 and continued for a week. Was unable to retain any food and very little water. Urinalysis at this time showed nothing—not even acetone or diacetic acid. (He had been subject to periodic vomiting until the age of seven.) November 27 jaundice appeared and continued for about two or three weeks. Vomiting ceased November 30, and patient was able to attend school a week later.

Case 6—N. F.; male; 7 years old; brother of the preceding. Without any noted prodromata he became sick Dec. 10 with nausea and vomiting. Jaundice appeared on the third day. The boy was not nearly so sick as his brother.

Case 7.—F. W.; female; 48 years old; Fourth Avenue near Forty-sixth Street. Is matron of a day nursery. No cases of jaundice had appeared among her charges.

Was seen December 6, 1921. Fever, coryza, sore throat, cough, headache, backache and pains in limbs. Lungs negative. Pharynx congested and edematous.

Diagnosis—Influenza.

Fever continued over a week, then declined by lysis—took much longer than expected for influenza. About this time patient experienced nausea and vomited repeatedly. After about half a week jaundice appeared. Three or four days later, patient was able to retain light food, and in another week was able to get up. Jaundice persisted for seven weeks, and patient felt weak for two months afterward.

Case 8.—G. P.; female; 9 years old; living in Fifty-seventh Street, near Eighth Avenue. Was seen January 11, 1922. Had been unable to attend school for four days on account of nausea and vomiting. Was improving at the time of my visit. Jaundice had appeared on the previous day.

Case 9—E. R.; female; living in Sixtieth Street, near Third Avenue. Brought to my office January 16, 1922. Nausea and vomiting three or four days. Jaundice noted. Spleen palpable. No fever at the time of visit.

Case 10.—M. J.; 14; female; living in Windsor Place near Prospect Park; was seen January 18, 1922. Had been "terribly tired" all the preceding week, since about January 10. About January 14 complained of headache and nausea. January 16 began to vomit; this continued until January 20. Jaundice appeared January 18 and continued about two weeks.

Case 11.—T. J.; 12 years old; female; sister of the preceding patient; was seen Jan. 28, 1922. She had had a "cold"—was tired and hot, with temperature of 101 degrees on the 24 and 25. On the 26 she seemed all right and went to school. January 27 she came home almost in collapse, with vomiting. Her mother thinks she became jaundiced at once. Was in bed one week. Jaundice persisted several weeks.

This patient was not nearly as sick as her elder sister.

The mother later informed me that there were two boys on the block who appeared outdoors with jaundice at the same time that her girls convalesced.

Case 12.—J. B.; male; living in Sixty-first Street, near Third Avenue. Is brother-in-law of Case 9 and a frequent visitor at that house; they live only a block apart.

Was seen February 9, 1922. Became ill the previous day with nausea and continuous vomiting. Already jaundiced. Was not seen subsequently.

I have inquired among my friends on hospital staffs and in private practice, but no one seems to have observed an excessive amount of jaundice.

As far as I can find out, there has been no connection between my cases except as noted. All were of Norwegian stock.

My cases seem to differ from the ordinary catarrhal gastroduodenitis in the extraordinary severity and duration of the nausea and vomiting. All had vomiting continuously over a period of three to seven days. The lightest cases seemed to be the three secondaries.

In cases 1, 5, 11 and probably 10 there is a fairly consistent history of febrile movement lasting two or three days, apparent recovery for one or two days, then nausea and jaundice without fever.

Case 8 who also had fever, I believe, was a mixed infection of influenza and jaundice. The influenzal fever did not subside as promptly as I expected, and I am inclined to think it was complicated by the prodromal fever of jaundice.

Is it an abdominal influenza? I believe not. Cases 1, 2 and 3 occurred in June- July, August-September and September respectively, long before influenza became epidemic.

None but Cases 5 and 7 had fever and illness sufficient to call for a doctor's services before the onset of vomiting which was after the fever had subsided.

Case 5 had lobar bronchitis resembling influenza and fever, but it was an upper lobe involvement, and not the usual lower-lobe bronchitis.

Nine of the twelve were children, three adults.

As to household pets, most of them had none. Cases 2 and 3, I believe, have a cat. Five and 6 have a dog. Ten and 11 have a cat.

No inquiry was made as to food, mice, etc.

It is possible that three of the cases throw some light on the period of incubation.

Case 2 began to vomit August 25. Case 3, his sister, became sick September 25, four weeks later.

Case 5 had initial symptoms November 20 and started to vomit November 23. Case 6, his brother, got nausea December 10, seventeen days after his brother had started vomiting.

Case 9 started to vomit about January 13. Case 12, her brother-in-law, started to vomit February 8, twenty-six days later.

Cases 10 and 11, sisters, began to vomit January 16 and 27, and I believe were probably infected from the same source, especially since two others in the same block seem to have been attacked at approximately the same time.

These cases cannot have been Weil's disease, which Osler and other authorities describe as febrile throughout. Despite the severity of the vomiting I believe rathr that I have witnessed an epidemic of catarrhal jaundice such as Osler, Strumpell and other authorities mention.

EDITORIAL

Rainy Vacations

IN THE AGE of man's innocence, before the advent of modern problem novels, which always seem like the excrement of nasty minds, and before the lucubrations of Schoppenhauer and Nietzsche frothed out of the compost of fermenting Germany, Louisa M. Alcott wrote:

> Into each life some rain must fall,
> Some days must be dark and cold and dreary.

No one who has lived to be thirty years and more will deny the truth of this observation. But why must all those rainy days be gathered within the limits of one's Summer vacation? Even when one consults the calender so as to avoid intruding on the period that is consecrated to St. Swithin, the sour old Saxon reneigs and takes his forty days so as to cover your fourteen! Incidentally, did you know that the removal of the saint's body from his humble grave to the shrine prepared for him in the cathedral was delayed for forty consecutive days by rain? Apparently the Gods of the Saxons had it in for the Saxon saint. But to return to our own troubles: One would gather that the only uses of vacation rain are to ruin golf, spoil the roads, and bring out angle worms. Not being a robin red breast, the last is a doubtful blessing, especially as salt water fish don't bite at angle worms. Even the crows complain; the rain spoils the flavor of the corn and keeps the field mice underground. One can hear them discussing the situation in the tall trees back of the house, and one of them has threatened to take the matter up with Mayor Hylan. There are quasi-poetic souls who claim that they are filled with delightful emotions by listening to the patter of the rain on the shingles. Did you ever wake in the night and try to attune your soul to this sort of music? Knowing that with each succeeding hour new leaks will surely develop in a roof that already has more leaks than it knows what to do with? And that the turkey red coverlets will run and ruin the bedding, to say nothing of bringing out the full fragrance of the cheap straw mattresses? Then there is the subject of green mold. After four days of conscientious rain, green mold will grow on shoes, valises, the lapels of your best blue serge coat and the cover of the family Bible. By the sixth day a variegated feltwork of dark and pale green, French gray and orange will fill the inside of all unused shoes, and give a delightfully ne plus ultra effect to the outside. By this time an entirely new set of smells will have developed, each room offering something special for the discriminating nose. Also one will begin to notice the rococco trimming supplied by the oil stove. Keen observers will not fail to discover the ideal conditions that have been taken advantage of by hosts of mosquitos and gnats. Even the biscuits in their water-tight wrappings are sodden and the matches strike almost as well as a piece of old-fashioned molasses taffy. But to appreciate the acme of discomfort is reserved for the man who wears dimity combinations which he hangs at night on the back of the chair close to the open window. Such a man has been known to grow positively blasphemous when discussing the healthfulness of fresh air in bedrooms. There are enthusiasts who choose to spend their vacations in tents or cabins in the woods, but together with mountain climbers and long-distance trampers, they are beneath contempt. Their troubles are self sought. Let them stew in their own juices.

There are, of course, compensations. One may gaze out over the ever-changing face of the landscape, watching the slanting lines of the rain as it falls now in playful spurts, now with dogged persistence, and again with tantalizing uncertainty. One can wile away hours as he studies the trickle from a broken eaves-trough and watches the splash and spray from the little puddle that it has made in the sand and pebbles below the edge of the porch. Or he may employ himself in devising home-made makeshifts to patch the holes in his only rubber coat. Keen intellectual exercises center around efforts to recall to whom you loaned your only good umbrella, and valuable memory systems can be devised in searching out and tabulating fitting adjectives for the borrower. And last, but by no means least, are the tender reveries into which one falls, with their shifting pictures of joys present and to come, as he listens to the voices of his little children calling out from minute to minute, "Mother, what can I do now?"

H. G. W.

Concerning Experts

MR. BARRON C. WATSON assures us that a majority of our citizens are not morons* and that the statistics gathered from the Draft and similar sources give a very unfair notion of the mental capacity of those who were tested. As is well known, the Binet tests were modified and amplified, and after careful study by capable psychologists, the result was declared to be a much fairer test of mental calibre. But (and it is just here that our enthusiasts demonstrate their inefficiency) the application of the new system was placed in the hands of "experts" whose training consisted, for the most part, of a course at a summer school! Without taking into consideration the literacy of the group to be tested, the stock questions were asked, the answers checked with a stop watch, and the result tabulated.

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*More About the Morons, The Outlook, Aug. 9, 1922.

Naturally a Scandinavian one year in this country, though mentally alert, would fail to respond normally because of unfamiliarity with English, while an illiterate who might give a correct reply if the question were phrased in modern slang, would fail through ignorance. Then there is always that certain proportion who are "rattled" by the very idea of an examination. There is a significance in a report of this sort quite apart from the question of how many mental defectives may or may not be present among us. The important deduction lies in the attitude of the general public toward so-called "experts." We are constantly being bombarded from all directions by overwhelming statistics garnered by 'experts' in every imaginable branch of human activity—public welfare, moral uplift, municipal economy, to say nothing of a host of other technical subjects—and our legislative, and even our educational leaders are quite ready to accept the say-so of any proponent who can show a certificate of efficiency from some correspondence school, or who is employed by one of those societies with an imposing list of directors calling themselves "public welfare" organizations. To revert for a moment to morons, is there any decision calling for keener insight than a psychological question such as this? Can anyone qualify as a psychanalysist who has not spent years in the intimate study of human minds, normal as well as abnormal? It may be accepted with very little question that until one is old enough to understand his own mental processes, those of other people are difficult to fathem, and ripe maturity by no means always brings enlightenment. In the last few years this country has been asked to accept a wide variety of measures for social betterment, such as compulsory health insurance, old age and widows' pensions, maternity benefits and what not, all backed by most convincing statistics. What such figures may be worth is illustrated by the source from which a certain research bureau drew some, once on a time. A certain youth fresh from college was appointed an "investigator" and assigned to study police conditions in a large city. When he pleaded inexperience he was assured that it was merely necessary to ask each cop he met for the time and to tabulate the answers as polite and otherwise! Then the bureau would issue reports beginning, "Our special investigator has found by personal inquiry, etc."! It is high time that the source of the statistics upon which claims for changes in our laws are based should be most carefully scrutinized. It is easy enough to sophisticate figures without having them collected by "experts" of more than sophomoric callowness.

H. G. W.

Suffering Cats

THE TITLE of these few remarks has been stolen outright from the gentleman who wrote an alliterative protest to the New York Times on July 10 and signed himself "Kit Katz"; but as he adapted it from the established vernacular and has treated the subject in a most flippant and unfeeling manner, no apologies are due. His contention is that the Society for the Prevention of Cruelty to Animals should take positive steps to relieve distressed citizens of the annoyance of unbridled feline vocalization. He offers the suggestion that the position of "Cat Cop" be established and that a peace officer shall patrol the back fences in order that the nuisance may be abolished in due and legal form. Ever since the police department called upon us to investigate complaints that cats were being shot with a rifle from the editorial office, the gravity of the situation has become more and more apparent. At no small expense a barbed wire barrier has been added to our defenses with the result that the nightly concerts have had added to them a distinctly jeering quality. Mockery is bad enough from the neighbor's children, but it is inexpressibly irritating when it is carried to one's ears by a feline chorus from the safe side of the fence. The wire may have kept the cats out but it also interrupts one's aim, and soon looks untidy from the articles of domestic use that adhere to the barbs. Then, too, by interposing a barrier, it favors weak and cowardly squallers which would otherwise quickly turn tail before a more capable moll-bruiser. So far but one casualty has been noted—a pitiful case of death by strangling caused by the collar of a pampered darling becoming caught on a barb. The cat choked itself by its own weight! Accidents of this sort are all too few. Just here, it would seem, the S. F. T. P. C. T. A. (Dewolf Hopper used to sing this alphabetical complex) comes in for severe censure. Surely, if it is empowered to prevent suffering inflicted by cruel humans who reason, its humane duties demand constant and *active* watchfulness to forestall pain and death due to the unreasoning indulgence of feline caprice. As a matter of fact, with the passing of the horse, the activities of the organization seem to have shriveled and are only indicated, as it were, by the occasional appearance of one of its liveried employees and the less than occasional passing of its wire mesh dog wagon, facetiously labelled "ambulance." Scoffers have declared that this vehicle is used only to take the pet dogs of influential members out for an airing now and then. However that may be, requests to have it call for some ownerless dog or cat that has pre-empted one's door mat or area are almost invariably met with the statement that it is out for the day, but will call next Wednesday. The insulting warning is always added that the poor little wanderer must be tenderly cared for and properly nourished in the meanwhile. And members of this society do not hesitate to use their position to annoy responsible citizens. One of them—a woman—once caused the arrest of a prominent physician whom she accused of cruelty because he permitted his beloved setter dog to jump out and run behind his buggy! The magistrate dismissed the case with an apology, but just as when Brer Rabbit poured the scalding water on Brer Wolf, "no 'pology ain't gwine ter mak de hair grow!" As a matter of fact, there is a very real field for this society to develop; the active regulation of stray animals, including the efficient suppression by humane methods of the excess cat nuisance.

H. G. W.

Obituaries

DEPARTMENT UNDER THE CHARGE OF WILLIAM SCHROEDER, M.D.

JAMES WATT FLEMING, M.D.

Born in Edinburgh, Scotland, April 29, 1853. His early education was received in the public schools of Brooklyn, N. Y. He was the son of George Lyall Fleming and Jessie Grant Watt. His medical education was under the direction of Jarvis S. Wight, M.D., LL.D., and was completed at the Long Island College Hospital, where he received his degree in the class of 1880. This was followed as interne in the Eastern District Hospital and as ambulance surgeon. During his professional life he held the position of physician at the Eastern District Dispensary, 1881-1886; surgeon, Eastern District Hospital, 1886-1893; surgeon, Brooklyn Fire Department, 1882-1886; physician, Baptist Home, and the Long Island College Hospital; member of the Council of the Long Island College Hospital, 1897-1908; of the Board of Regents, 1908-1922.

He was a member of The Medical Society, County of Kings, from 1882; its President in 1905; Alumni Association of the Long Island College Hospital, of which he was President in 1898; American Medical Association; Brooklyn Pathological Society; Associated Physicians of Long Island from 1900 to 1922; Phi Kappa Sigma; Joppa Lodge, No. 201, F. and A. M., and for a number of years active in the Eastern District Branch of the Y. M. C. A., of which he was President, and the Masonic Veterans.

Dr. Fleming was married on April 24, 1883, to Miss Adele Bigelow. A daughter, Florence, survives him.

In 1896 Dr. Fleming wrote an obituary of Louis Conrad, M.D.

Dr. Fleming belonged to the old school of practitioners. An honest, upright man and physician. He died February 7, 1921, in Brooklyn, N. Y.

THOMAS CANBY CRAIG, M. D.

Born in Chambersburg, Pa., November 3, 1853, and died in Brooklyn, N. Y., December 13, 1921. He was educated at the University of Pennsylvania where he received the degree of M. D. in 1880, entering the United States Navy in 1881 as surgeon with the rank of lieutenant and remained until 1898, when he began the practice of medicine in Brooklyn.

During his professional life here he was connected with the Department of Health and the Brooklyn Home for Consumptives. A member of the Medical Society, County of Kings, 1895-1921, American Medical Association, University and Navy Clubs.

Dr. Craig is survived by his widow, Cornelia Souther, and a daughter, Mrs. R. Stuart Owens.

JOHN RANKIN, M.D.

Born in the City of New York, son of James D. Rankin and Joanna Markling. His education was received in the Schools of New York. His medical education at the Long Island College Hospital, where he received the degree of M. D. in the class of 1882. In his early life he was a member of Company A, 37th Regiment, New York State Militia. During his professional life he was surgeon to the Bushwick and Caledonian Hospitals. A member of the Medical Society, County of Kings, 1882-1921; Associated Physicians of Long Island, 1903-1912; Brooklyn Medical Society, 1895-1901, and McPherson Doane Camp, Sons of Veterans.

He died December 21, 1921. His wife, Mary Jane Rankin, died May, 1913. He is survived by a daughter, Mrs. Charles F. Garlich.

ALBERT MYERS VAN SICKLE, Ph.G., M. D.

Born in Colinville, New Jersey, in 1872, and died in Brooklyn, N. Y., December 27, 1921. He was educated in the public schools, receiving the degree of Ph.G. from the New York College of Pharmacy in 1891, and that of M. D. from the College of Physicians and Surgeons, New York, in 1896. He was a member of the Medical Society, County of Kings, from 1900 to 1902, the Associated Physicans of Long Island from 1911 to 1921, Bay Ridge Medical Society, Day Star Lodge No. 798, F. and A. M., of which he was Master in 1914, and the Masters and Past Masters Association of Kings County. He is survived by his wife, Flora Dennis Van Sickle, a son Wilson, and a daughter, Edith Van Sickle.

GARRETT KOUWENHOVEN WILLIAM SCHENCK, M.D.

Born in Canarsie, Long Island. He was the son of Stephen R. Schenck. After receiving his preliminary education he entered the College of Physicians and Surgeons of New York, where he was graduated in the class of 1901. This was followed as interne in the Coney Island Hospital. During his professional life he held the position of physician to the Bradford Street, Coney Island, Kings County and St. Joseph's Hospitals.

He was a member of The Queens County Medical Society and The Associated Physicians of Long Island from 1916 to 1921, and Olympia Lodge, No. 808, F. and A. M. He died December 6, 1921, and is survived by his daughter, Olive Schenck.

MARCUS JACOBI LEVITT, M.D.

Born in Poneivsh, Russia, in 1878. After receiving his preliminary education, he entered the University of Baltimore, where he received his medical education, graduating M.D. in the class of 1900. During his professional life he was a member of the Medical Society, County of Kings, from 1919 to 1922, and the American Medical Association. He was physician to the Jewish Hospital, Hebrew Orphan Asylum, Brownsville Hospital, East New York Dispensary, and the Home for Aged.

He is survived by his wife, Marian, and two sons, Jesse and Leon Levitt. Dr. Levitt died January 25, 1922.

Society Transactions

Transactions of the Brooklyn Gynecological Society

The 248th Meeting of the Society was held in the Library Building, 1313 Bedford Avenue, Brooklyn, Friday, February 3, 1922, at 8:45 p. m.

PROGRAM

Case Reports

1. An Unusual Labor in a Case of Twin Pregnancy. . . Dr. Ralph M. Beach.
2. Two Cases of Ectopic Gestation With Unusual Histories. Dr. Charles A. Gordon.

Paper

Management of Prolonged Labor in Women With Normal Pelves. Dr. J. A. Harrar (*by invitation*).

Management of Prolonged Labor in Normal Pelves

James A. Harrar, M. D.
New York City

IN OBSTETRICS, as in other branches of surgery, there is usually more than one way to achieve a result, and one cannot be too dogmatic in saying, this method is always wrong and that one is always right. In this discussion I shall present my personal preferences in treatment, but I believe that I am speaking for the majority of the attending staff at the New York Lying-In Hospital. Most of us have worked together so long that given an obstetrical situation the essentials in the management proposed would agree practically one hundred per cent.

At the Lying-In, with its large indoor ward service and outdoor tenement service, it has been considered advisable to try out new procedures as they have arisen, limited only by the determination of making and keeping the hospital regarded as the safest place to have a baby. I believe we have extracted the beneficial elements from the procedures of Freiburg Dammerschlaf, pituitrin, rectal examination, Beck's two-flap Cesarian, Pomeroy's median episiotomy, and Potter version, without adopting any of them. All in all, guided by the successive hospital heads, the tendency has been to cling to the old doctrines and straight obstetrics.

When To Interfere

I chiefly desire to indicate the routine of procedure in handling difficult labors, that being employed year in and year out has given us the best results.

As it is impossible to define prolonged labor in an individual confinement in units of time, it were better to pronounce a labor prolonged or delayed.

1. When there is primary inertia with ruptured membranes.
2. When, despite good contractions, there is no advance in cervical dilatation or in progress of the presenting part.
3. When there is advance with increasing malposition.
4. Lastly and mostly definitely when the mother or child is showing signs of exhaustion.

Early recognition of organic abnormalities is not so difficult with careful antepartum examination. It is the functional abnormalities of dilatation, propulsion, tolerance of the child to pressure, and increasing malposition that make such cases as I am discussing so treacherous. These abnormalities are the ones that only can be appreciated as they develop during labor.

It is good practice for the nurse or attendant to count and record the fetal heart every fifteen minutes during active labor, the same as we learned it important to do in scopolamine amnesia. The first signs of distress on the part of the baby are disclosed by irregularities in the rate and rhythm of the fetal heart and usually before the passage of meconium is observed. A sufficient number of vaginal examinations must be made to properly supplement the abdominal findings. If there is any question of Cesarian section, examination to determine progress should be made by rectum. We prefer routine pelvic examinations to be made vaginally, but limit them to the fewest number possible. The hospital morbidity records are very satisfactory to us in a long series of cases handled with vaginal examinations, both indoor and outdoor. Our figures for the past year are 8.5 per cent morbidity in the wards and 3 per cent in the tenement service. The outdoor mortality in 1921 was one maternal death in 1800 confinements, including all cases transferred into the hospital for delivery. We believe the routine vaginal examinations even made as they are by many students and internes, but with proper asepsis of hands and vulva, certainly have been of greater teaching value than those made by rectum. An inexperienced student or interne can do considerable damage to the rectal mucosa. A rectal examination cannot disclose the hot, dry, swollen vagina of prolonged neglected labor, nor can it give a sufficient mental picture of the form or size of the pelvis of the woman, perhaps first seen when in labor by the student, interne or consultant. It is only by thorough familiarity with the normal mechanism that we may realize when things are not progressing as they should. The good old mechanism of labor, the stumbling block alike of the professor trying to teach it, and of the student trying to understand it, must hold our constant bedside attention at every labor.

There are two main problems in prolonged labor, one of the relations of the forces, the passages and the passenger.

How To Interfere

When we have primary inertia with ruptured membranes and cervix only one or two fingers and not effaced, packing of the cervix and upper vagina with gauze is usually of greater value in softening up the cervix and starting good pains than the bag. In this situation the bag does not always work so well. If we have hard pains with rigid cervix in the first stage, the use of morphine-scopolamine is most efficacious in controlling the mother's suffering and preventing her nervous exhaustion while the cervix dilates. A constant observation in twilight sleep was the apparent minimum of uterine effort required in effecting smooth and rapid dilatation of the cervix. With membranes intact and dilatation slow, an additional freeing of the membranes for a couple of inches around the os keeps the case under our control much better than their rupture, and should be given a trial first. Though in multiparae simple rupture at three to four fingers with a cervix well effaced will often be productive of a prompt delivery. As may be observed at Cesarian section the membranes are chiefly adherent around the lower uterine zone and more markedly the less the cervical dilatation. It has also been recognized by other observers that the physiological adhesions of the membranes about the cervix when more marked does interfere with the mechanism of retraction. When sufficient retraction has resulted in effacement but with dilatation still incomplete, and the labor becomes prolonged, insertion of a bag is a most valuable maneuver to prepare the case for delivery. That there are certain limitations in the action of the bags we are forced to admit. There are instances where, by intermittent traction on the bag, it is finally pulled through without any uterine contractions intervening. Others, where the presence of the bag excites pains, but as soon as it is pushed through, labor comes to a standstill. A larger bag does the same thing, and a long four to five-finger cervix is left on our hands and the baby still undelivered. It is still too early for forceps and breech extraction after version through such a cervix is very hazardous even after manual dilatation.

Manual dilatation is only safely effective in a cervix that is pretty well effaced. Even then except when only a remaining rim needs to be reamed out there is danger of tearing and hemorrhage.

Incidentally, before doing a version, one of the most comforting methods I know of surely ascertaining that the cervix is completely dilated flush with the vaginal wall, especially if one's hand is not larger than a seven and a half glove, is to pass an easily sterilized object, such as a china nest egg, in advance of the hand. Then, by grasping the egg, the fist can be made as large as is necessary to make it snugly fit the birth canal. As it is slowly withdrawn the resistance of any remaining cervix can be sufficiently abolished to secure the ready passage through it of the aftercoming head.

If delivery is imperative and the cervix is effaced, rigid, three to four fingers dilated, and the head fitting tightly in it, small snips on either side with scissors after the fashion of Duhrssen's lateral incisions are of great value before forceps, and are especially to be thought of when the aftercoming head catches in the cervix. If any extensive enlargement is required or the cervix is not well drawn up, the anterior and posterior vaginal cesarian incisions are safest, as further incising is better under the operator's control. In all incisions of the cervix it is well to remember that there is, of course, a lack of dilatation of the cervix between the incisions.

When dilation of the lower soft tissue funnel, the levator ani margin of the urogenital septum becomes necessary, we are inclined to prefer manual dilatation with plenty of lubricant and repair of such small lacerations as may be superimposed. Restricting episiotomy to the cases where danger of a tear into the rectal sphinctor is imminent, or where the baby is doing badly or must be instantly delivered, it is a matter of comment with us at present that there is more fever after the repair of episiotomy wounds than those of spontaneous lacerations. Whether this is due to house surgeon's technique or to the opening up of less protected planes of tissue to absorption is open to question.

Coming now to the delivery of the baby in prolonged labor. Close examination for anomalies of the baby's size, attitude and position will frequently reveal the reason for the delay. Oversize, total or in part, such as hydrocephalus or abdominal ascites, attitudes of deflexion, especially brow, and failure of rotation in posterior position, are to be carefully ascertained before attempting delivery. The use of pituitrin by the resident staff is not permitted before the birth of the baby, and is very rarely so employed by any of the attendings. It is used rather frequently for post partum bleeding before the full effect of ergot can take place.

With the head at or above the brim we have always favored version in preference to high forceps and still do. The case histories present 3298 versions as opposed to 814 high forceps, or in the ratio of four to one. Potter of Buffalo has laid emphasis on the combined advantages of a certain group of maneuvers in podalic version and breech extraction; the details not being new, but the combination resulting in such an excellent delivery as to give the name "Potter Version" to the operation. We are endeavoring to adopt this grouping of maneuvers when we have to do a version, and most of us find each step the easier done in the way Potter practices. Even with improved results, however, we still adhere to the old indications, and if we are doing a few more versions it is only because we are doing less high and hard median forceps. Version competes with high and hard median forceps, but we are not yet prepared to admit that it competes with low median forceps or in any way with undelayed spontaneous delivery.

Just here, to reiterate for emphasis in breech extraction, one should always be prepared to make use of Duhrsen's incisions should the head stick in the cervix, and to remember use of forceps on the aftercoming head. Some operators are too prone to forget everything in the excitement of the moment but continued violent traction on the body of the baby.

The most frequent and most commonly unrecognized cause of delayed labor in normal pelves is failure of rotation with a persistently posterior position of the occiput. To return to indications for interference, briefly it is proper to interfere in delay due to a posterior occiput (1) when despite good contractions there is no advance, or (2) when with advancement there is an increasing extension of the head. Version with the head above mid-pelvis in such conditions, manual rotation and forceps extraction with the head below mid-pelvis are the operations of choice. Molding of the head through the brim is no contraindication to version if under complete anesthesia the uterus relaxes with sufficient elasticity to readily admit the passage of the hand and wrist through the retraction ring. In fact, a well-molded head is much easier to deliver in the breech extraction after version than one that has not molded.

Complete Scanzoni rotation of the posterior occiput with the forceps is a dangerous procedure in most hands. If the head rotates easily with the forceps the maneuver is reasonably safe, but if with the slightest resistance it should be abandoned. The anterior blade frequently cuts into the child's scalp and cheek just in front of the anterior ear, and there is risk of high and deep vaginal tears. Under complete anesthesia manual rotation with external assistance is much to be preferred, and is usually successful. I have yet to find a head that could not be rotated manually at least to the transverse position, and then by introducing the posterior blade first, the head can be pretty well held from sinking back into its posterior position, while the other blade is applied and locked.

I will not enlarge upon the subject of Cesarian section in normal pelves, but there is undoubtedly a definite field here for the operation in oversized babies, in prolapsed cord with long, poorly dilated cervix, in non-engagement with tonic uterus and live baby, and in cases of previous still-birth from dystocia in what was considered a normal baby and pelvis relationship.

Patience in obstetrics is next to asepsis, but it must be an active patience, not a passive one, allowing the mother to become totally exhausted or the baby in imminent peril of death before determining on a line of action. In prolonged labor as thus defined, I believe any operative procedure is justified that will not injure the woman's health or harm the child.

DISCUSSION

Dr. John O. Polak:

"Dr. Harrar's paper was of very great interest because I had supposed that he was going to advocate more radical measures in the management of these cases.

"We are at the present time analyzing a series of something over 300 cases where the membranes have been ruptured for a period of over 24 hours, and it is this class of cases that gives the obstetrician, it seems to me, the greatest difficulty when he knows that he has a normal pelvis, and the difficulty, as the doctor states, lies in the dilatation and in the propulsion. Our feeling has been that watching the fetal heart at frequent intervals with the use of morphin in the cases where the contractions are active, but yet more or less powerless, has given us the most satisfactory results, provided, of course, that the position was normal, or approximately normal, and the relation of the head to the pelvis, is normal, or approximately normal.

"In securing dilatation I was glad to hear the doctor speak of the pack. It is now about 28 years since I was employed by the late Dr. Bodkin to watch cervices. Our plan at that time was very interesting because it fits in very well with the doctor's paper. If we had a case of ruptured membranes with uneffaced cervix, or a cervix that was dilated to 3 or 4 centimeters, we found that if these cases were packed—and we used at that time cotton batting boiled in lysol—the woman was put in Sims' position and the vagina firmly packed with moist cotton. We then gave her ¼ gr. morphine. We then sat down and watched and when the pack was expelled we sent for Dr. Bodkin and he delivered these cases with low or mid-forceps, one right after another, for a series of several hundred cases. I handled the cervix for him in that way for several years. With the advent of the fear of entering the vagina that some men have inculcated us with, the pack has fallen into disuse. Afterwards, we adopted the use of the vaginal calpurynter, using a No. 4 bag in the vagina against the cervix, instead of through the cervix, and I have found, from personal experience, that this is a very rapid way, in conjunction with morphin, of getting dilatation of the cervix.

"I must take exception to the use of Duhrsen's incisions. I believe that this is something we should avoid wherever possible. I feel in those cases where incision is absolutely necessary that it is far better, as the doctor said, to make an incision up the front of the uterine wall. This is certainly difficult in some of Duhrsen.

"In regard to occipitoposteriors we have taken a position opposite to what Dr. Pomeroy has taught, simply because of the fact that we wanted to find out whether we were absolutely wrong or not. We believe the majority of occipitoposteriors can drive themselves and will drive themselves down to the spines and partially rotate to the point where labor can be terminated without very great difficulty to either the patient or the child.

"There is one point that must be remembered in all of these cases of prolonged labor, which, to my mind, is most important: These heads do not stand the amount of bruising and pounding that we used to suppose they did, and I believe that the child who has been subjected to hours of pounding *is a very bad forceps risk,* and this has led me to adopt more radical methods in my personal work than we are adopting in the clinic.

"I want to take exception to the statement that the doctor makes with respect to the lack of danger connected with vaginal examinations. Now, it is an odd thing, but in the hospital clinic where we keep a definite record of the morbidity of our vaginal versus our rectal examinations, our morbidity is very much less in the cases where rectal examinations have been made.

"Another thing I would like to bring out is the point that version, as the doctor has said, is a procedure which, after there is dilatation of the cervix with lack of propulsion, gives a very much better chance for the child than a high median or high forceps. For a very long time (perhaps 6 or 7 years) we have not had a high forceps done in the clinic. Version can be done in these cases, provided there is not a retraction ring and provided we use chloroform anesthesia. We cannot get relaxation of the uterus with gas-oxygen or ether anesthesia as well as we can with complete chloroform anesthesia.

"Altogether, it seems to me that the doctor's paper has been most timely. It would be well if this paper could be put into the hands of the general practitioner, because it shows in a very long series of cases, by men who are competent to know and competent to judge, that they are getting results that are relatively better than these short cuts that have recently been suggested."

Dr. Ralph H. Pomeroy:

"When I used to do a good deal more formal teaching of students than I have had occasion to do for a good many years, the most interesting student, or the most interesting interne was the one who acted as if he was going to learn how to think obstetrics, and not try to do things by rule of thumb, but adapt his means to the end, and even the simplest evidence on his part that he could think from one step to another gave us a certain feeling of satisfaction in anticipating his future greatness.

"I am sure that in listening to Dr. Harrar that Dr. Harrar has been thinking obstetrics for a great many years. Once in a while, in trying to teach a resident, or an interne, how to think obstetrics, one is startled to discover that some enterprising individual expects in about six months' time that he will be able to standardize all the maneuvers or applications of maneuvers, so that for the rest of his life he won't have to learn anything more. I think most of us who have grown up are just beginning to think that we have just a few elements of the game at our command. We take the position of a certain innovation in our own line of thought, or some one else's line, and we try to standardize that without prejudice to the patient or without destroying our refinements too much.

"Dr. Harrar has distinctly intimated that he has riveted, or that the Lying-In Hospital has riveted most of the fads and fancies in the last ten years, and I strongly suspect, while he does not adopt them universally, that he applies the knowledge where it will do the most good, and I believe that he has so implied. Of course, I personally have had some curious reputations for indulging in radical maneuvers, but it is very difficult to persuade my own immediate workers and associates that I am so thoroughly radical when it comes to an individual case; and I certainly think that I have tried very hard to understand the mechanism and management and difficulties of dealing with posterior position problems, and I don't know exactly when to interfere to the greatest profit of the patient in posterior positions yet, and still I suppose if I have another five years to work them out I may possibly get them entirely solved by that time. But there are certain general principles that have pretty well crystalized in my mind. Perhaps the central thought is that it is difficult to deal with a neglected posterior position case with justice to those concerned. Therefore, what we want to eliminate is the neglected posterior position case, and we don't want to have to extract any posterior position case in mid-pelvis with a partially-dilated cervix because the mother and the child are already in jeopardy. The logical conclusion from that is the one I think I wish to explain, and that is, we must differentiate posterior position cases, not merely by studying them afterward as to whether they would deliver themselves, but by trying to determine whether a certain individual case will probably have the mechanism and the force above to accomplish that mechanism of spontaneous rotation by impact on the pelvis floor before the mother and child show signs of wear and tear, and the principle that I go on is that you need not have any posterior position to go to that stage. The posterior position that makes trouble is the one we have to terminate because it has come to a standstill. I don't propose to have any posterior position come to a standstill in the posterior position, and I shall have corrected it before that, so it is no longer a posterior position.

"As a matter of practical detail I instruct my resident and juniors at the present time that in making decisions they should decide by the time a patient is in labor twelve hours, if not before, that the stage is set for a spontaneous termination of that case, if it is a posterior position case. Otherwise, as soon as practical there should be no posterior position to consider in that case.

"Now, all the work that Dr. Potter has done in the matter of transposing the position of the child in utero under deep anesthesia, even in the presence of retraction ring or retracted uterus, is a matter that I went through some eight or ten years ago in working out how to eliminate a posterior position."

"Most of you have heard me talk about the mechanical simplicity and the little wear and tear on either the child or the mother that is occupied in the 180 degree rotation of an occiput posterior to a position of occiput anterior. Some of you have personally seen me do it. Others have been easily taught to do it, even when I am not there. The point that I make is that you can teach an interne to do it if he has any mechanical sense and will take his lesson. I don't believe that you can teach any one but an expert how to do a Potter version extraction and not lose a large percentage of the children; but I think you can teach any reasonably intelligent interne who is fit to do a forceps job, or fit to do an examination of the pelvis, how to mechanically rotate a posterior occiput into an anterior occiput in the other diameter, and once done, you may do it too often, but once done, the case is unraveled as far as its future problem is concerned if you have to interfere to make an extraction.

"I don't think it is altogether sensible for me to try to occupy the evening by demonstrating that posterior position rotation because I am perfectly satisfied it can be demonstrated satisfactorily except in vitro."

"Whenever we get a contribution from an institution of the size and experience of the Lying-In, we want to sit up and listen to it. This conservative paper from the Lying-In Hospital is very interesting to me because we always think that that is the place where they do more cesareans than anywhere else in the world.

"The question of prolonged labor brings to my mind the question just what is meant by prolonged labor. The doctor's subdivisions were fairly inclusive. Personally, I do not believe that any labor should be a prolonged labor. The time for interference in a labor is when things stop going, and this practically always by giving every one concerned a rest. I don't think we have to stay up all night watching an obstetric case. I think Dr. Williams' remarks about 'letting them work while one sleeps' are all right. I believe there is altogether too much interference in the early hours of the morning in these cases. No harm will come in waiting till after breakfast unless they are neglected the evening before. I don't think it is necessary to do operative obstetrics in the middle of the night.

"I think the greatest thing Dr. Potter has done for us is to teach us this ironing out of the vagina. Lacerations are avoided to a considerable degree with this procedure.

"The point that the doctor raises about vaginal and rectal examinations is not in accord with our experience at the Methodist Episcopal Hospital, where we found that our morbidity was not as great where we were doing rectal as compared with vaginal examinations.

"I agree, however, that no case should be subjected to cesarean section or to any other operative procedure until a thorough vaginal examination has been made, if necessary under an anesthetic. That there is more reaction to episiotomy wounds than to the suturing of lacerations is something with which I must heartily disagree. Our experience is that the use of episiotomy, a clean-cut surgical incision and the proper suture is one of the most satisfactory advances made in obstetrics.

"I am glad to hear the doctor say they don't use pituitrin very often in the Lying-In while the baby is in the uterus. We have forsaken that absolutely.

"Dr. Humpstone then spoke about cases of occipitoposterior, which had been touched on by Dr. Harrar, and said he believed Dr. Harrar had in mind multiparae where the head is above the brim. He said that this condition was a very frequent cause of prolonged labor in multiparous women. The doctor referred to the value of version in these cases and ironing out of the vagina, and said that this class of cases presented one of the best possible indications for Potter version that he knows of.

"Continuing, the doctor said: 'In regard to the use of bags or the vaginal pack: I do not think that they are in accord with my ideas of modern obstetrics, but I want to say a word for the Scanzoni procedure.' With preliminary ironing out of the pelvic floor and the vagina, there is no method of delivery of occipeto posterior which so nearly simulates nature's way of dealing with this condition.

"I want to express my personal appreciation of Dr. Harrar's paper."

Dr. Henry M. Mills:

"I came here principally to learn.

"I have been very much interested in the paper of the evening.

"In regard to the question of the packing of the vagina: we have had quite a number of cases of eclampsia. We have good results in packing about the cervix with gauze for twenty-four hours. We control the convulsions with morphin, while dilatation is taking place.

"We do not use bags at all.

"There are a great many subjects which could be discussed, but many of them have been pretty thoroughly commented on, so I will not prolong the evening by discussing the paper further"

Dr. Victor L. Zimmerman:

"There is so much good material presented in this paper by Dr. Harrar that it seems to me it warrants more discussion. We see a few cases of primary rigidity of the cervix, but they are relatively few. When we speak of prolonged labor in cases not caused by disproportion, it is always associated in my mind with occipito-posterior positions. In the management of this condition I think it is unfortunate that this maneuver of Pomeroy is not better understood and more practiced. It is mentioned in all the text-books and given passing notice by practically all teachers, but very seldom resorted to in practice. The cause of its neglect is due, I think, as Dr. Pomeroy has said, to the fact that it has to be taught in practice upon the living subject, and must be carried out with a definite technic well worked out by its author, and carefully taught by him to his assistants. In every case of slow first stage we suspect a posterior position. When, by rectal touch in such cases, we determine that the cervix is so far dilated that it will admit the hand, a vaginal examination is made under anesthesia to make a positive diagnosis. Then, if it is a posterior position, and the membranes are not too long ruptured, and no retraction ring has formed, we push that head back out of the pelvis above the promontory, and rotate it 180 degrees to the opposite position, hold it there while the woman is rapidly brought out of the anesthetic, and by her own efforts and those of an assistant pressing upon the breech, it is engaged in the new anterior position. An abdominal binder is applied and the labor allowed to proceed. Chloroform is the preferable anesthetic, as it gives better relaxation, and recovery from it is more prompt. Seventy per cent of these cases will deliver spontaneously, and the rest are an easy forceps delivery. The labors are all shortened, retraction ring dangers are minimized, and invalid-producing injuries to the soft parts, such as are the result of intrapelvic forceps rotations are avoided. I can safely say that this maneuver has robbed occipito-posterior labor of its terrors in our hands."

Dr. Harvey B. Matthews:

"It has been a pleasure to hear Dr. Harrar go back to the guide posts in obstetrics and show us that the new things have no special advantages, except in very special cases, over the older methods.

"Of special interest, I would mention first the use of pituitrin. I think his warning is timely. It seems to be pretty generally accepted now, particularly in hospital practice, that pituitrin in small doses in certain indicated cases, can be used, but not in the larger 1, 2, 3 or 4 ampule doses that we formerly used.

Our experience has been that it is possibly better to have the placenta delivered before pituitrin is given." At this point Dr. Matthews referred to a report made by Dr. Ryder before the New York Obstetrical Society of 100 cases in which pituitrin had been given before the delivery of the placenta, and added that some months later Dr. Ryder, in discussing a second series of cases in which pituitrin had been administered, stated that they had changed their ideas considerably with respect to the use of this drug and that they had come to the conclusion that unless there was some special reason for its administration, they waited until the placenta was delivered before giving it.

Continuing his remarks, the Doctor said:

"Personally, I believe that occasionally and perhaps frequently we have trouble with a retained placenta if as much as 1 ampule of pituitrin has been given before the placenta is delivered. On 2 occasions in the last year I have had to remove the placenta from the uterus in which the os was closed following the administration of 1 or more ampules of pituitrin before the delivery of the placenta."

The doctor then discussed Duhrsen's incisions and stated that he had not had any occasion to make an anterior incision, but that 2 or 3 lateral incisions usually sufficed. "It is not necessary in all cases to make 4 incisions. One must remember that sometimes healing is not primary in these cases, because of the traumatic state of these cervices infection is more apt to occur than in the ordinary case. I have had at least 1 case in which no bleeding took place at all, and at the end of 2 weeks the cervix looked as though it had not been sutured."

"In regard to the Scanzoni maneuver, I would say that this operation, as recommended by Professor Scanzoni, is distinctly a bad procedure. I do not believe a true Scanzoni can be done without producing a great deal of trauma, and for this reason I have not performed a Scanzoni in a long time. I certainly would not recommend it to students or internes.

"I have been very much gratified in listening to the conservative paper of Dr. Harrar, and I think such papers are a help to us all, particularly as the present trend in obstetrics is radical rather than conservative."

Two Cases of Ruptured Extra-Uterine Gestation With Unusual History

Charles A. Gordon, M.D., F.A.C.S.

E. K., age 24, admitted to St. Catherine's Hospital on January 26, 1922, and not yet discharged. She has been married three years and has two children, one twenty-nine months old, and the other eleven months old. She has had no abortions or intra-uterine instrumentation, and has never had dysmenorrhea, showing a normal menstrual history of the 28/6 day type. Both labors and puerperia were normal and uncomplicated.

After her first baby she had a lactation amenorrhea for ten months, when menstruation was established without change. Her second baby was seven months old, when menstruation again came on, and occurred regularly for three months, her December period coming on time in the first week of the month and lasting six days, as usual. One week after this period she was suddenly seized with a sharp pain in the lower abdomen; this lasted for a few hours and left her very weak. For the last six weeks she has bled considerably, using from two to five well-soaked napkins daily, and suffering fairly constant dysuria.

On the day before admission, she again had a sharp pain in the lower abdomen. At no time did she have to go to bed or stop her housework.

Examination showed a well-built woman with negative chest and abdomen and some pallor. On vaginal examination the uterus was found normal in size and position, with a sensitive cervix and a definite sausage-shaped mass in the posterior fornix, which was very tender. Her blood pressure was 120/90, her T. P. R. 99.1-95-20. Her blood showed 3,980,000 R. B. C. with 17,600 W. B. C. — Polys. 80% and Hb. 35% Sahli.

The diagnosis was ruptured extra-uterine pregnancy and operation took place on the day of admission. The anesthetic was ether and the time of operation was fifteen minutes. About three ounces of dark fluid blood without clots found free in the abdomen. The uterus was enlarged, pale, and in good position. The left tube and ovary were apparently normal. The right ovary was normal in size and appearance from the uterine end to the ampulla, which was almost black in color and dilated to the size of a golf ball and apparently filled with blood. The right tube was removed from its cornual position, conserving the circulation of the ovary. The fimbriae were closed and there was no rupture in the tube. (Tubal abortion.)

Examination of the tissue confirmed the diagnosis.

M. M., age 21, admitted to St. Catherine's Hospital on Nov. 27, 1921, and discharged Dec. 11, 1921. She has been married eighteen months. Menstruation was established at the age of 12, regular 28/4-5 type, always spending the first day in bed with severe abdominal pain. The character has not been affected in any way by marriage. Her last period was on Aug. 30, on time, and as usual.

On Sept. 11 she had at home an operation for "sterility." This consisted of dilatation of the cervix and the free use of the tincture of iodine in the cavity of the uterus. On the 11th of October, four weeks after this operation and six weeks after her last period, she was seized with a severe fainting spell, without pain, however, and on the next day began to bleed. Five days later she passed a large piece of tissue, another smaller piece the next day, and has spotted every day. She has had frequent weak spells associated with pain in the abdomen.

Examination showed a little woman with marked pallor, negative chest, and great tenderness and tension and rigidity in the lower abdomen on both sides. Her breasts were negative for colostrum and areolar changes. Her blood pressure was 100/70 T. P. R. 100.3-112-24. Her cervix was exquisitely sensitive, the fundus small and anteverted, with a large, boggy mass filling the cul de sac. Her R. B. C. was 2,650,000; W. B. C. 12,000; polys. 74% and Hb. 65%. The diagnosis was ruptured extra-uterine pregnancy, and operation took place on Nov. 29. The anaesthetic was ether and the time of operation fifty minutes. A small amount of fluid blood was found free in the abdomen, with large clots filling the pelvis and lower abdomen. The left tube and ovary were adherent to the cul de sac, but were not adherent to each other. The fundus was firm and normal in size and appearance. The right tube was much enlarged for its whole length, with a dilatation the size of a tennis ball at the ampulla. There was no rupture in the tube and a large clot at the fimbriated end. The right tube was removed and the tissue diagnosis was extra-uterine pregnancy. Recovery was uneventful.

These cases, although having many points in common, are of some interest.

The first case, E. K., shows no infection, sterility, dysmenorrhea or abortion in her history. She was pregnant three times in three years (Polak) and had slight peritoneal bleeding with marked vaginal bleeding. Dysuria a prominent symptom.

The second case, M. M., was possibly infected or dilated, at any rate while the ovum was in the tube, the operation preventing its passage into the uterus.

DISCUSSION

Dr. John O. Polak:

"These two histories are rather interesting. They apparently are definite cases of tubal abortion with almost the characteristic history that goes with tubal abortion, particularly metrorrhagia.

"In regard to the etiology in ectopic, it seems to me that you can place ectopics in three classes—the class where there is a preceding infection, and that is usually a preceding gonorrheal infection, with a more or less long period of regeneration of the tube, where you can look upon the ectopic as the first sign. That nature has regenerated the lumen of the tube, that the tube does regenerate in a large number of cases of pure gonorrheal infection, I think there can be no doubt whatsoever from clinical observation, and we have learned in ectopic that it is the point of arrest, and that point of arrest will cause an arrest of that particular ovum, and there is no decidual reaction until the ovum has located in the tube, and when the ovum has located, there is a decidual reaction, not only in the tube at the point where the ovum has located, but diffusely placed, more or less scattered over the lumen of the tube. Now, both of these cases were tubal abortions occurring just where you would expect them to occur, at the neck of the tube, as we find here one dilated to the size of a tennis ball and the other to the size of a golf ball.

"Then, the second class of ectopic is the woman who has a congenital malformation. Such women have long tortuous tubes and usually have a persistent history of dysmenorrhea. I have seen a large number of these cases of ectpoic occur as the result of some operation for sterility in this type of woman with a small anteflexed uterus and conical cervix, and on opening the abdomen we find an ectopic located in the free end of the tube and the other tube an immensely long, tortuous tube.

"And then there is the third class, to which the first case belongs, of the woman who gets an ectopic in passing. The interesting thing would have been to have found out which tube had the corpus luteum in it. It was probably the other tube which was involved. That was shown in Edgar's case and Matthewson's case by the migration of the ovum.

"Those are the only points of great interest it seems to me, except that all of these tubal abortions have a persistent metrorrhagia, while the tubal ruptures are not so liable to have that proposition. If one can just use the analogy between the abortion that takes place in the uterus and the abortion that takes place in the tube, one has not got to go very far to that of the picture one has when he deals with these cases of tubal abortion."

Dr. O. Paul Humpstone:

"May I ask the doctor if he thinks that either one of those two cases would have gotten well if they had not been operated on? The argument is so often brought up about these cases of tubal abortion as to whether they should or should not be operated. My own experience is that an ectopic or tubal abortion of this type invariably will lead to symptoms and that they must be operated on sooner or later."

Dr. Charles A. Gordon:

"I do not think either of these cases would have gotten well without operation, Dr. Humpstone. That is, the end-result, I think, in these cases would have been a hematosalpinx or an organized blood-clot in the tube. The pregnancies that get well are those that take place on one of the fimbriae.

"It must be remembered that one of these was the size of a golf ball and one the size of a tennis ball.

"Both of these cases were cases of tubal abortion, and yet one showed only a faint 'spotting' history and the other vaginal bleeding sufficiently profuse to require the use of five napkins a day, which I think is important.

"I thought, Dr. Polak, that the point of interest in the first case was that there was no etiological factor that we could find, except that this woman was one of the women who have children very frequently and that she was the type of case you called attention to some years ago, the women of some nationalities who have babies very frequently and one after another, and who have ectopics apparently without any other factor in the case. I don't think your observations have been borne out by others, but I thought this case would help your point.

"The second case, it seems to me, was of more interest, because I think, from the menstrual history, that she must have been dilated and iodinized while the ovum was in the tube, and that the ectopic was caused by the fact that she was iodinized and the ovum could not pass."

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

September, 1922 **3 Pages**

Clinical Tuberculosis

CLINICAL TUBERCULOSIS. By Francis Marion Pottenger, A.M., M.D., LL.D. Second Edition. Two volumes. St. Louis, C. V. Mosby Company, 1922. 707 and 725 pages, illustrated, plates. 8vo. Cloth, $15.00.

Continued work for more than a quarter of a century for the most part in a sanatorium equipped for careful clinical and scientific work, by a man whose writings have disclosed the well-ordered mind and earned him an international reputation, justifies the production of these books. The anticipations of information, of profit and of pleasure aroused in the reader are fully satisfied.

Two volumes, nearly 1400 pages, might seem like a great deal of space to give Clinical Tuberculosis, but while the author enters into much detail, it is necessary; it is practical; there is nothing inserted that is not of value, and nothing that could well be omitted. Uppermost throughout is a warranted feeling of optimism in the results obtainable that should go far to destroy the apathy which so many physicians show to this subject and to encourage needed confident aggressive treatment. A reward for proper treatment of *"apparent cure in 90 per cent of incipient cases, 60 per cent of the moderately advanced, and a healing or arrest in 40 per cent of far-advanced cases"* should be sufficient incentive.

There is a very successful effort to place all statements and facts on a firm scientific foundation. In no part is this more fully shown than in his description of the symptomatology, the division of the symptoms into classes, and the explanation and relation of every symptom to the pathological condition. The rôle of the nervous system in these is demonstrated with marked clearness. These chapters must make very interesting reading to Sir James McKenzie.

One would expect to find the author prejudiced in favor of climatic and sanatorium treatment, but these are studied, appraised, and reasons for and against them weighed with judicial calmness. "The effect of climate is relative and climatic change should be advised only when the patient can avail himself of other important measures, *particularly* that of intelligent medical guidance." In all parts of the work he gives reasons for the faith that is in him. He uses Tuberculin for diagnostic and therapeutic purposes and obtains with it beneficial results, but he wisely adds its dangers, and the skilled care and close observation which its use requires should convince the reader that it can not be left to those of little experience or with light control over their patients. Tuberculin is not used to the neglect of any of the other measures, medicinal, physical, mechanical, psycho-therapeutic, or dietary, all of which are so valuable. It is a long, long cry from the advice to a patient with active disease to "go 'way to the country somewhere, eat plenty, and take a rest."

With uniform excellence of so high a grade, one may not, perhaps, single out special chapters, but those on fever and diagnosis make a most pleasing impression and are replete with well-balanced, substantial thought, while his review of diaphragmatic pleurisy illustrates the careful scientific study of a subject. The tuberculosis clinic which gives the clinical histories of patients suffering from the different forms of tuberculous lung infections, with laboratory reports, graphic records, effects of treatments, final results, including some autopsy reports, with the correlation of findings and symptoms, materially increases the value of the book.

No physician practicing internal medicine can well afford to be without some book containing the recent thought and advances in clinical tuberculosis, and these books will prove a valuable addition to his library.

T. A. McGoldrick.

Internal Secretion and the Ductless Glands

INTERNAL SECRETION AND THE DUCTLESS GLANDS. By Swale Vincent, LL.D., B.Sc., M.D. Second Edition. New York, Longmans, Green & Co., 1922. 422 pages, illustrated. 8vo. Cloth, $8.50.

It is indeed a pleasure to see the subject of the Internal Secretions presented in such an able and scientific way as the author presents it in this second edition. So much is being written at present upon these glands and their products that it is difficult at times to keep one's mind clear, and to benefit by these writings. The author has started with the fundamentals and carries the reader through the present conceptions of internal secretions. Each gland is explained automatically and physiologically, its single function and the combination with other glands carefully explained. The subject is so simple in some of its actions and so complicated in others that one is compelled to admire the presentation by the author. To appreciate the care and effort of the author one must study in detail this excellent book. It should be used by all who desire to treat patients wtih disorders of the Ductless Glands.

H. M. M.

Surgical and Mechanical Treatment of Peripheral Nerves

SURGICAL AND MECHANICAL TREATMENT OF PERIPHERAL NERVES. By Byron Stookey, A.M., M.D. Philadelphia and London, W. B. Saunders Co., 1922. 475 pages, 217 illustrations. 8vo. Cloth, $10.00.

This new book is one of the few in English dealing with the surgical and mechanical treatment of peripheral nerves. The treatment of nervous conditions is very thoroughly considered by presenting in the first place the anatomy of the peripheral nerves; then the subject of nerve degeneration and regeneration with the methods of nerve repair are considered together with nerve implantation and liberation. A large chapter is devoted to the technique of nerve suture. One half or more of the book is devoted to the mechanical treatment of peripheral nerve conditions.

The book is helpful to the general surgeon since it aids him in determining the level of nerve injury and the indications for operation, the method of operation, and the prognosis which one may expect. Post-operative treatment is also considered. In the field of the industrial surgeon and the neuro-surgeon in particular, valuable help is given because of the very clear discussions of the various methods of nerve injury and their treatment. The book should also be of interest to those interested in nerve histology, especially that of nerve degeneration and regeneration. The enormous amount of recent work done on the subject is carefully considered and the methods of treatment of nerve injury and degeneration, upon the basis of clinical nerve surgery are given close thought.

The book is abundantly illustrated with excellent drawings, charts and diagrams, and should be of the greatest value to the medical man interested in the surgical treatment of nerve conditions.

Version in Obstetrics

THE PLACE OF VERSION IN OBSTETRICS. By Irving W. Potter, M.D., F.A.C.S. St. Louis, C. V. Mosby Company, 1922. 138 pages, with 42 illustrations. 8vo. Cloth, $5.00.

"Potter Version" is the most talked of obstetric manoeuvre today. The question whether this procedure is a correct one in each and every case that Dr. Potter says it is, is beside the point in question, for the so-called "Potter Version" or the internal podalic version of obstetric literature, is an obstetric operation that has "come to stay." Future obstetricians will have a more thorough knowledge and a wider application of this operation than past obstetricians have had, and thsi fact may be explained in two ways, viz.: (1) The present-day "hankering"—by physicians of all classes—for something different; and (2) the demand by the public (women) of any procedure that will shorten the second stage of labor. Recall if you please what the flurry of "twilight sleep" has done for the public (women)? No first-rate obstetrician thinks nowadays of conducting a labor without the use of morphia to some extent. Just so will "Potter Version" take its place in the practice of obstetrics and just how important a place it will assume is entirely in the hands of those who teach obstetrics.

The title of the volume, "The Place of Version in Obstetrics," is really a misnomer, but "what's in a name?" The idea of the book is first to present in outline the history and evolution of version; secondly to accurately describe the technic used by the author, showing wherein the older methods of version were not as good; thirdly the author's ideas of the indications and advantages of version, and lastly the justification of "wholesale version."

Chapter III., which considers the present day employment of version, is really the beginning of the volume, the preceding chapters dealing entirely with the historical side of the operation of version. Chapters IV, V, VI and VII treat respectively of the questions of the author's technic, criticisms, and answers, indications and advantages of versions and conclusions. In his conclusions of Chapter VII are included detailed statistical reports of all the cases confined by the author during the past two years.

The volume is certainly worth while for the obstetric specialist. It is not, however, a book for the "general run" of physicians, for its teachings cannot, for the present at any rate, be properly carried out by the average physician doing obstetrics.

Harvey B. Matthews.

The Thyroid Gland

THE THYROID GLAND. Clinics of George W. Crile and Associates. Edited by Amy E. Rowland. Philadelphia and London, W. B. Saunders Co., 1922. 288 pages, 106 illustrations. 8vo. Cloth, $5.00.

The book comprises a series of monographs from the clinic of George W. Crile and Associates, the various topics being treated by men especially interested in the various branches of thyroid anatomy, physiology, pathology, chemistry, operative technique and anesthesia. In this manner the reader becomes acquainted with the specialist's experience and point of view. The work is, to be sure, clinical throughout, and is based upon a wide experience and a wealth of material.

No attempt is made to treat the various subjects exhaustively since this would be more than was intended by the authors. It might be wished, however, that some of the important bibliography bearing upon the various thyroid diseases and treatment be mentioned.

The book is very readable indeed and very helpful in being condensed and practical. It is written in clear type and abundantly illustrated with excellent photographs, diagrams and drawings. Particular mention is made of the details for anoci-association and the use of nitrous-oxid-oxygen. The chapter on the protection of the patient in the surgery of the thyroid is especially valuable for the surgeon.

Altogether, the reader gains valuable information directly from the sources of great experience.

Radium Therapy

RADIUM THERAPY. By Frank Edward Simpson, A.B., M.D. St. Louis, C. V. Mosby Company, 1922. 391 pages, with 166 original engravings. 8vo. Cloth, $7.00.

Since 1912, when appeared the English translation of the great French work on radium therapy by Wickham and Degrais of Paris, there has been no adequate general treatise exclusively on this subject published in the English language; although in 1914, Doctor William S. Newcomet of Philadelphia wrote a comparatively small work on "Radium and Radiotherapy." It should be mentioned though, that in 1917, Janeway, Barringer and Failla of the Memorial Hospital of New York City, published a first report which was called "Radium Therapy in Cancer," and which was most valuable in its own field.

It is therefore with unusual pleasure that one peruses the excellent work which Doctor Simpson has given us. It gives first a very good summary of the physics of radio-activity and the biologic effects of radium rays; whilst the balance of the work, excepting the last chapter, which is devoted to professional injuries due to radium, is given over to a detailed account of the indications for and technique of radium therapy in the numerous diseases in which it has been proved of value. An extensive bibliography covering some forty-four pages and including most of the valuable articles is a worth-while addition, though it can hardly be termed exhaustive. The indications for radium therapy are being added to so rapidly that it seems hardly fair to criticize any omission; but it might seem that the treatment of hypertrophied tonsils by radium, which is rapidly becoming so popular, deserves much more than the ten lines given to it.

This book is most heartily recommended as a sound and conservative textbook on a subject which, though still in its infancy, is constantly appealing to a larger and larger number of practitioners.

C. C.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgement of receipt has been made in this column.

PSYCHOANALYSIS AND THE DRAMA. By Smith Ely Jelliffe, M.D., and Louise Brink, A.B. Washington and New York, Nervous and Mental Disease Publishing Company, 1922. 162 pages. 8vo. Paper, $3.00. (Nervous and Mental Disease Monograph Series No. 34.)

MENTAL DISEASES, A PUBLIC HEALTH PROBLEM. By James V. May, M.D. Boston, Richard G. Badger, 1922. 544 pages. 8vo. Cloth, $5.00.

ALGUNOS ASPECTOS DE LA PSICOLOGIA DEL NINO. Por Doctor Honorio F. Delgado. Lima, La Opinion Nacional, 1922. 82 pages. 8vo.

SURGICAL CLINICS OF NORTH AMERICA. Published bi-monthly by the W. B. Saunders Co., Philadelphia and London. Volume 2, Number 3, June, 1922. Chicago Number. 289 pages, with 89 illustrations. 8vo. Paper (price per year, 6 nos.), $12.00.

DOCTORS—ENTRE NOUS. Short Stories. By James Bayard Clark. New York, The Medical Times Company, 1922. 66 pages, illustrated. 12mo. $1.00.

DISEASES OF THE STOMACH AND UPPER ALIMENTARY TRACT. By Anthony Bassler, M.D., F.A.C.P. Fifth Edition, revised and enlarged. Philadelphia, F. A. Davis Company, 1922. 977 pages, with 151 illustrations and 93 full-page plates. 8vo. Cloth, $8.00.

LONG ISLAND
MEDICAL JOURNAL

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Ethics of Medical Advertising*

Stanley E. Gunnison
Brooklyn, New York

THE ethics of medical advertising is so broad a subject that it would seem wise to confine my discussion this evening to its application to Medical Societies, or group advertising—in the belief that a comprehensive advertising campaign under the auspices of the Kings County Medical Society would soon be followed by others and mark the beginning of a new era in medicine, which ultimately would lead to a better understanding of the great profession for which you have stood, and are now standing as such mute sponsors.

Your prejudice in the matter in question is either for moral or ethical reasons. Kant—the German philosopher, distinguishes between *pure morals* the science of the necessary laws of the free-will, and *ethics,* properly so-called, which considers those laws as under the influence of sentiments, inclinations or passions to which all human beings are more or less subject.

There is manifestly no *moral* reason for the conclusion that medical societies should not advertise; and I am therefore forced to regard the aversion to it as a purely ethical one.

The history of medicine reaches well back into the centuries and we find its first ministrations by the priests in the Temple of Aesculapius. Here, surrounded by mystery, the science was known only to them—and the cures were God-given secrets. Hippocrates—regarded today as the father of medicine, was among the first to expound the fact that disease is the result of natural causes, and the first to observe the minute principles of symptoms. It was not until the influence of the early schools began to have their effect, about 300 B. C., that the science of medicine and religion could hardly be regarded as separable. The elimination of the priestly control has been gradual, and even today we find the inherent tendencies strongly responsive.

Like the nebula hypothesis the original body in its process of development is throwing its particles through the different schools of medicine, contributing to the enlightenment of the world.

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*Address before the Kings County Medical Society, May 16, 1922.

You have seen the picture in which the medicine of the world had its origin—may we now look to the early days of American medicine.

There were no great hospitals—no large medical schools—no national, state or county societies where could be discussed in the open forum the problems of the profession. The leech needed no introduction—in those days he was admittedly the only one on the countryside who knew anything about the ills to which man is heir—and hence was the only one at such times to be consulted. There were no homeopaths, no eclectics, no Christian Scientists, no osteopaths, no chiropractors, no specialists nor diagnosticians as such. The doctor was one in all and all in one, and those needing medical attention had no alternative than to go to him. He had a monopoly—and for him or the group of men of his profession to have advertised, would have been like carrying coals to Newcastle.

There were no automobiles, nor finely developed transit lines in those days, to make possible the New York physician leaving in the afternoon for consultation in Chicago the next morning, and returning to his patients the following day. The doctor's was a limited field—and fifty miles were not covered without a tremendous loss of time. There were no daily papers nor magazines spreading their influence. The town weekly was of little or no advertising value; and if his co-workers had desired to advertise in it they would have probably been sandwiched in between Farmer Brown's cow, offered for sale in large display, and a cure-all. Why then could this superman, with no competition, and conditions as I have described them, come to any other conclusion than he did? Any other stand would have been a mistake. He was in the position of a manufacturer of a patented article of general consumption—having a limited production and a market and distribution within fifty miles of his factory. Advertising would have been unnecessary. The American doctor in so deciding his procedure at that time, was a philosopher and a man of good business sense. While the conditions of those times elevated his position in the social sphere, those same conditions imposed upon him limitations which, in our own day, are difficult for us to realize. He was the best known and most loved man in a comparatively small community. Everybody knew what he could do. There was no need for him to advertise, and no one expected him to. Thus conditions formulated for him an advertising policy which does not apply today.

The Squire who owned the weekly journal understood his position and made no unfavorable editorial comment if, perchance, he overlooked a confinement case ten miles out on the road on a rainy night.

That this somewhat facetious reference may not be construed as a reflection on the country doctor—whom I have always held in highest esteem—may I relate an incident told me recently by a prominent member of this organization. An up-state country doctor, visiting him, was explaining the difficulties with which the country doctor had to contend. He said that the city physician, in emergency cases, has the great hospitals, other practitioners, and the ambulance, at his call—while the country doctor, finding a man whose leg has been practically severed by a mowing machine—or a woman showing an alarming condition in labor—is dependent upon his own resources—

likening the city physician to the great trees of the forest that grow straight and upright, each protecting the other from storms—while the country doctor stands as the oak, alone in the meadow, challenging the elements.

You have seen the picture of yesterday. Now let us consider that of today. The old man has slept away. In his place we have the allopath, the homeopath, the eclectic, the osteopath, the scientist—the chiropractor, the diagnostician and the specialist—great institutions for the treatment of ills stud the nation—medical schools and colleges are yearly sending forth their product in increased numbers in advocacy of their teachings; state boards have been organized to protect the public and the profession; ambulance services hurry their emergency cases to the operating table or sick room; research laboratories enable the tracing of the bacteria to its darkest lair, while antitoxin works its havoc among them. Anesthetics and opiates have come to ease suffering, and stimulants to fan the fading fires.

The curtain is now raised on this new order of things. The automobile, fast trains, the telephone, telegraph and wireless now weld the most remote corners of the continent into one great whole. Magazines and newspapers read by millions daily spread their influence and play their part in shaping the public conscience. The Advertising Clubs of the World are organized to force truth in advertising, and their vigilance committees have been largely responsible for strong, constructive and protective enactments that have compelled higher standards and done much to eliminate unscrupulous advertising. Farmer Brown's cow for sale, today is found in the classified columns and the cure-all is not accepted by the great media of the country. Science, ingenuity and invention have all combined and wrought these wonders, but the lack of business acumen of the medical profession in meeting these modern conditions is stultifying its influence. Its passive acquiescence and adherence to a false ethics, is causing a drift toward dangerous shoals—where workmen's compensation and health insurance enactments loom large ahead and cast their threatening shadows before them.

There is no mightier force than an awakened public opinion, but public opinion does not arouse itself—it has to be awakened. It was Archimedes who said, "Give me a fulcrum in space and I'll move the world." The medical profession, living as it has within itself, satisfied with its conditions, governed by an antiquated ethics that has denied it its inalienable right to be heard—needs today a footing from without. It is not understood. It appears to many as suffering with pernicious anemia. The red corpuscles so necessary to the progress of our aggressive life of today cannot be increased by its self-inflicted treatment. The chronic condition offers no reasonable assurance that the osteopath could be of any service; nor could we expect the much heralded chiropractor to effect a permanent cure; but there is a well established science where men have made a study of such cases and effected *lasting cures*—and I say those words advisedly.

It is the work of the advertising man to diagnose his clients' problems—as the physician does his patient's—to see wherein the difficulty lies—to suggest constructively a comprehensive plan wherein the obstacles may be surmounted and the patient brought to a clearer realization of his potential possibilities.

It has been my belief for several years that the recognized schools of medicine were doing nothing to offset the effect of the new and many times erroneous theories that are constantly being agitated; and as one by one they are securing a following, there has been no serious attempt by organized medicine to counteract it by showing the tremendous strides made by it, and the magnificent results attained.

The day is now, when any organization which has the welfare of its profession at heart must study the trend of the times, and recognize the mighty problems confronting it. With modern medicine the solution lies in a better understanding of it and its work by the body politic. The hermit may, within the walls of his hut, build great cities —but the pulsating world will never see them; he may have mastered his Blackstone, but as a governing influence he is not recognized at his town meeting. His voice is not heard.

Laws relating to the health of the people should naturally emanate from the medical profession. We have but to look over the vast number of statutes yearly enacted on the subject to see how many times its recommendations have failed, and sensationalists have guided the enactments; and how many times those whose wisdom should for the common good have prevailed, had little or no voice. There is something wrong with the law-making bodies or the forces that control. To me, in this most important matter, the burden is on your profession. If it were better understood by the public, its voice would be increasingly a factor in constructive health legislation that would ultimately redound to the betterment of the laws and the security and respect for the profession.

Those of us who have seen the ever-changing conditions of the times, realize that the last ten years have wrought many revolutions. A war has shaken the fine financial structure of the world; destroyed untold millions in property values, and the greater potential loss of the human lives represented by the young, maturing, trained, scientific men; but all has tended to quicken the creative and constructive thought of the day. Financing the cause of the war, where voluntary subscription of the citizenship of the country was so essential, created a new problem in America. Bonds had to be offered and subscribed for. The vision of the administration was manifest when it requested the advertising forces of the country to direct their energies to the merchandising and selling of its paper. The government wanted the people to realize the necessity of the purchase of those bonds to win the war. A group of advertising men were called together and in their hands largely was placed the responsibility. You recall today their creations that quickened the loyal pulse, and brought every issue to an over-subscription. The Red Cross had to be supported by the generous donations of every one, from corporation to infant; and even today the ringing creation of "The Greatest Mother of Them All" stands clearly before you. It was my pleasure to have handled the advertising in this Borough for the first great Red Cross Drive. Brooklyn, as usual, due to its proximity to Manhattan, with its great financial institutions—faced a serious position. Brooklynites might give in New York. We adopted the slogan, "Give, and give in the Borough you live in"—used newspapers, periodicals, streamers, cards and posters, and sent to the General Committee of the American Red Cross as a result of the week's work Brooklyn's subscription of

$2,000,000, and in the second drive $4,000,000, voluntarily contributed. In a later drive for the Salvation Army, the slogan of "Help Put the Dough in Doughnut" was used, and after ten days of effort the General Committee received Brooklyn's check for $220,000.

So great organizations have found and are more and more finding that their positions are strengthened by having their work better understood by their fellowmen, who, after all, constitute the court of last resort that has settled every great issue of the world's history.

The candidates for the Presidency of the United States place their platforms and principles before the people by direct advertising appeals.

Great groups of industry are today telling their story to the nation in increasing numbers—the Dairymen's League, the Hotel Men's Association, the Long Island Duck Association, the savings banks, the railroads, the steamship lines, the United Hospital Association, and the great Interchurch and the Centenary Movements are among those now seeking public attention. Each group has been developed by some advertising agency, and religion, the forerunner of medicine and so closely affiliated to it, has found its use expedient.

Who, then, is he who stands and with himself communes!

Kings County Medical Society, standing as you do, so potential a factor in the health and welfare of this great municipality of which you are so important a part—a responsibility rests on your shoulders today. Your decision to tell the citizens of your country the great story of medicine, to direct them, as only you are qualified to do, in the better way of living, to point out preventative as well as the curative measures, may mean the breaking of a precedent, but it will certainly mean your entering into the spirit of the larger, the more forceful, and the more secure position to which you are entitled.

As one who for longer service seeks your advice, seek you such counsel as is most competent to direct. Go outside your profession—to other than yourself, and let him speak your language; let him advise with you as to when and where to speak; but for the security of medicine, that it may become an increasingly potent force making its influence felt on the life of the nation—

> "Proclaim your cause throughout the land unto all the inhabitants thereof."

The General Management of Chronic Valvular Heart Disease

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THERE are some salient features in the management of all cases of valvular heart disease regardless of the individual lesion.

The time has passed, when the diagnosis and treatment of heart disease consisted of the stethoscope and the prescription pad. The heart probably will be the first organ to definitely establish "physiological pathology" as a basic study for the prevention and cure of disease. Through experience we also have been reconciled to the fact that a murmur is in itself no indication of a grave prognosis, and that, on the other hand, too little importance in proportion has been placed upon the function of the cardiac musculature. An automobile may be functioning poorly on account of a defective valve, but is preferable to one with its valves intact, yet with an irreparably damaged engine. Furthermore, in the case of the heart, we have the reserve power, so invaluable to draw upon for reëstablishing its functional capacity, which varies of course in the individual, his occupation, environment and temperament. The mere presence of a cardiac murmur has been largely over-estimated. The number of cases coming to autopsy with valvular defects discovered during life, and unproductive of subjective symptoms, bear witness to this, providing the functional capacity of the organ had been maintained, and this likewise should be impressed upon the minds of susceptible patients, in whom the diagnosis of a cardiac murmur only too often presages an untimely death, and has a pernicious effect on their self-discipline and mental equilibrium. It also will be conceded that valvular defects in hearts with the compensation maintained, require no drugs, but otherwise, proper management. This varies according to the site of the lesion, but in many respects, is uniformly applicable to all cases. As to exercises, which only can be briefly considered within the scope of this article, it should be remembered that after middle life, arterial changes are frequent, and less license should be permitted as to the particular kind of exercise. The amount of active physical work, depends upon the age of the patient, the recuperative power of the heart, and the freedom from strain, but should at no time be of a violent nature. The necessity of abstinence from sexual excesses and alcohol, is self-evident, and while as a matter of safe precaution, it is wise to interdict tobacco, it is yet open to question whether any permanent organic changes are produced by very moderate indulgence, aside from its irritation to the bronchial tubes, or gastric derangement from the swallowing of impregnated saliva. I doubt whether "tobacco heart" can be demonstrated post mortem as a pathological entity. Cigarettes, of course, are more prone to cause bronchial irritation, and had better not be used at all. Straining at stool, running for a car, emotional disturbances, occupations causing both mental and physical fatigue, are frequent causes of disturbing the functional equilibrium. Yet even during the state of preserved compensation, associated pernicious influences should be prevented, especially constipation, and fermentative changes in the gastrointestinal tract, giving rise to eructations and flatulence. Likewise, the teeth, nasal accessory sinuses, tonsils, and other possible locations of focal infection should be carefully investigated. The beneficial effects of elimination of all fatiguing influences, and definite periods of sleep, cannot be overestimated. Diet, clothing, exercise, and habits should be carefully regulated, and are important factors in maintaining and restoring compensation. Each one of these is a study in itself, and applicable according to the individual features of each case; but as a sum total, they comprise the outstanding consideration, in every case of chronic valvular heart disease.

The value of rest in bed in disturbed compensation is generally conceded, but it must not be forgotten that there is difference between the immobilization of a limb, and rest in bed for heart disease, as the heart must continue to exert its functional activity, and should have all external irritations removed, in addition to rest of the body in the recumbent position. Mental irritation, worry, noise, or anything productive of fatigue, will greatly modify the effect of a rest. At this time saline cathartics will assist in relieving the portal system, and are administered most advantageously in the form of the hot concentrated solution of Epsom Salts.

Many pages could be written on the use and abuse of digitalis in chronic valvular heart disease, although to the credit of our teachers be it said, they have reduced the abuse of the drug to a minimum. Recent graduates no longer prescribe digitalis as soon as they hear a cardiac murmur, and many cases are spared lives of anxiety, through the tactful management of their cases, based on the realization; that a cardiac murmur *per se,* is not the signal necessarily for aggressive therapeutics, or a grave prognosis, a reassurance to which the patient is primarily entitled .

Yet the therapeutics of cardiovascular disease are more important today than ever. The rapidity with which the present generation is living, the strenuousness of business and professional life, and the fact that of the total number of deaths in the Registration Area of the Continental United States in 1920, almost 11 per cent were due to organic heart disease, show this importance.

Ruptured compensation, however, calls for digitalis, for its prompt administration, and for a potent and uniform preparation. While there are many adjuncts to digitalis, some possessing considerable therapeutic values, none of them can take its place.

Digitalis should never be administered as a routine procedure. This has again been emphasized recently by Pardee[1] as follows: "The mere presence of valvular disease, or without valvular disease the finding of a rapid heart or an enlarged heart, should not be considered to indicate digitalis therapy. The need for digitalis arises when the cardiac reserve becomes reduced, when the compensation gives evidence of failing, so that the ordinary exertions of life which the patient had recently been able to undertake without complaint become a cause of symptoms. Shortness of breath, palpitation and an abnormal tendency to fatigue are the first signs of trouble that will appear. Examination at this time will show that the patient's reaction to a test exercise is abnormal. Digitalis may be expected to benefit these cases, no matter what the pathologic condition." According to this author, however, its continued use is indicated in auricular fibrillation. It controls the cases in which it is indicated in proportion to the way it is controlled by the physician. It is the governor upon the engine; the automatic brake; the sand upon the rails, and it requires to be controlled in turn, with discretion and judgment. Neither should it be used in acute endocarditis, as the stimulation of the contractions may cause additional damage to the diseased valves. The statement is frequently made, and it often appears in textbooks, that where digitalis does not continue to exert beneficial effect, other drugs should be resorted to. This situation is often created, because the other drugs such as strychnine, nitroglycerin, caffein, etc., should often have been used with the digitalis. The generation of steam in a boiler is only of potential use, in proportion to the facilities of its outlet and distribution. It is therefore necessary at times to combine strychnine or nitroglycerine, or both, depending upon the blood vessels, pulse, tension, and peripheral circulation. A good preparation of digitalis should be insisted upon. Recognizing the importance of this, and the variability of the Galenicals, numerous digitalis preparations have appeared. My preference, based upon careful observation, and numerous clinical instances, has been for digalen. I have entirely discarded the tinctures and fluid extracts, as I could not retain confidence of accuracy in dosage, in the case of a drug possessing such variability from its crude state to the finished product. The diuretic action of digalen is also very reliable, and it is here that rapid digitalis action is often required, and cannot always wait, for the more or less variable ingredients of an infusion. In this day of perfected intravenous technique, and hypodermic medication, it is comforting to be able to produce quick digitalis effect in acute cardiac failure, by means of digalen hypodermically, which is a long step in a short time, since the infusion of the pulverized leaves was the best that pharmacology had to offer.

The accuracy of diagnosis of an adventitious cardiac sound, should not satisfy us; nor should it be a determining factor in the progress of a case. The fundamentals of the situation depend upon the heart muscle, its recuperative power, and the conditions of the vascular system in general. We should not forget that the reserve power of the cardiac musculature is a proportional one, depending upon the occupation, history and temperament of the patient. An active athlete would certainly require a greater imposition of work upon the heart to establish its recuperative power than one leading a sedentary life. Therefore each case of heart disease should be considered as a separate problem, the solution of which is to be evolved from the premises established by the individual himself, and not simply because he is a "case of heart disease."

The sustained effect of digitalis and the retention of functional ability of the heart for more prolonged periods after its withdrawals are favorable prognostic signs. On the other hand, a return of compensatory inadequacy a short time after digitalis is discontinued, or the increasing necessity for larger doses is of rather grave prognostic import.

The prophylaxis of heart disease has not received sufficient consideration. It certainly has not kept pace with prophylaxis in other lines.

Improvement in our knowledge of infections has added considerably to the prophylaxis and treatment of endocarditis, and resulting valvular damage. The term "growing pains" fortunately is no longer accepted as a necessary adjunct in growth and development of children, as it is well known that symptoms of rheumatic affection in children, are often not pronounced, and when of a mild character, may be followed by severe endocardial involvement. The complaint of pain in any joint of a child should receive prompt investigation, as the insidious character of endocardial or pericardial inflammation may become obscured. It has also been found statistically, that rest and protection of the body surface, during acute articular rheumatism, lessens the subsequent incidence of acute endocarditis.

Cardiac arrythmia due to diphtheritic infection is sometimes favorably influenced by digitalis medication, as recently reported by Bie and

Schwensen in the following abstract: In a previous paper Schwensen called attention to the frequent occurrence, in cases fatal during the acute stage of diphtheria, of a complex disturbance of the rhythm of the heart, and suggested that this was due to attacks of auricular flutter. If this interpretation is correct the administration of full doses of digitalis should assist in the checking of the disease. The present authors report two cases treated in this way. In both the arrhythmia ceased after the digitalis had been given and the tracings became normal, with the exception of some extrasystoles. One patient recovered, the other died of progressive acute myocarditis. The authors know of no other instance of recovery following an attack of severe irregularity during the acute stages of diphtheria. The effect of the digitalis confirms the theory that the arrhythmia is caused by flutter. The employment of this drug in these cases is, therefore, indicated as offering a chance of cure by saving the damaged myocardium from the great exertion caused by the irregularity.

There is a large prospective field for the employment of digitalis in cardiac arrhythmia, with the same object in view as is the case in chronic valvular disease namely, to remove the inordinate taxation upon the myocardial function, and the readjustment of a disturbed equilibrium. The administration of digitalis should be carefully watched, and its effects, rather than the cause, be the deciding factor in the course of its administration.

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The Early Recognition of Mental Disorders*

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PSYCHIATRY occupies a peculiar position in medicine — owing to its subject matter, it fails to appeal to the rank and file of the profession. Confronted as you are daily with practical problems in medicine where symptoms are the outgrowth of definite morbid physical conditions, you are not interested in a science in which the behavior and utterances of the patient are the chief guides to a comprehension of a morbid condition. Furthermore, the fact that psychiatry can offer so little in respect to the amelioration of mental disorders and that hitherto the efforts of psychiatrists have been mainly directed toward the observing and recording of the symptoms, is another reason why so little interest is exhibited in psychiatry. Yet, Insanity is a serious problem; an attack of mental disease brings immense grief to the family of the afflicted; the question of recoverability is always of paramount importance, and the physician who is able to allay the fears of the family by predicting a happy outcome is thereby doing a distinct service to it. It behooves us then to study the cases with a view of finding a basis on which prognosis can safely rest. Kraepelin's observations along these lines have been a boon to psychiatry. His views, which have gained acceptance throughout the world, have served to put psychiatry on a sounder basis. By the emphasis he placed on certain distinctive traits of definite morbid conditions and indicating their prognostic importance, he was able to consolidate and fuse into definite entities morbid conditions which formerly have been treated as distinct diseases.

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Traditional psychiatry, however, has gone no further — it gave us a few valuable hints, drew standard pictures of types of psychoses, but it afforded no glimpse as to the inner nature of the disorders, nor a proper evaluation of constitutional and individual factors which precipitate a psychosis and sustain its symptoms. For etiology is the weakest spot in traditional psychiatry. Text books give prominence to a number of etiologic factors which are, to say the least, of doubtful value and make one wonder whether the writers ever gave thought to the subject or merely repeat catechismal sayings. The introduction of psychoanalytic methods of investigation into psychiatric problems have been most helpful and stimulating and whether you agree or not with the aims and conclusions of psychoanalysis, it must be conceded that only along lines of individual psychology and the proper assignment of the role of the instinctive emotions and experiences of the individual can any advance be made toward an understanding of the psychoses.

Here I may be allowed to digress a little and utter a word of caution in respect to what we are wont to call the constitutional make-up of the individual. Constitutional traits have always received due consideration in medicine and their value as determining or contributing factors in disease recognized, and nowhere do they play such important a role as in the psychoses and neuroses. Hence the personal and family history of the patients are gone over minutely and attempt made to ascertain any abnormal traits or trends prior to the actual outbreak of the mental disorder. Relatives, always keen to help the physician in throwing any possible light on the nature of the psychosis, will frequently recall peculiarities the patient exhibited before he became insane, and these are often set down as real damaging features predestined to bring on later an attack of mental disorder.

This is, however, far from the actual truth. Aside from the fact that little account is taken of the wide limits within which the "normal" constitution may oscillate, the eagerness of the relatives and of physicians to find some tangible pathologic constitutional traits and the value which is here set upon strictly personal conceptions and interpretations is apparent. Only too often the abnormal in the make-up becomes only transparent after the outbreak of the malady. If there had been no psychosis, the traits now termed abnormal would not have been so interpreted. Hence, I contend that it is not possible in the presence of some unusual traits to predict in a given case an outbreak of a psychosis in the future. If definite abnormal traits reveal themselves before or about puberty, the most we are justified to say is that the case needs careful supervision and guidance.

The late Dr. August Hoch, a keen observer and clinician, once made a study of the constitutional traits of a group of typical cases of Dementia Praecox and of Manic Depressive Insanity, and came to the conclusion that each group presents distinctive features in the prepsychotic period, that typical manics, for instance, always exhibit natures which may be termed expansive — exuberant, gay, open, reaching out into the world, attracting friends, etc., while the Dementia Praecox group exhibits natural inclinations to contract, to shrink from the environment and the world, to brooding, to bashfulness, seclusiveness, etc. But these are actually the traits which later reappear in the psychosis. Hence, viewed at from this standpoint, a psychosis can be regarded as the unfolding and extreme development of the Constitutional traits of the individual. But all of us possess qualities either of the one or the other type, and only few possessing a manic or praecox make-up develop later a psychosis. Thus we are again confronted with the problem: what are the essential causes of the upset? Such are the methods and such the results of group investigation — the observation of external manifestations of the disease and the attempt to explain the symptoms by other symptoms having an earlier date. You will see wherein traditonal psychiatry has failed. An important step was made to advance our knowledge by Bleuler and other psychiatrists who followed the lead of Freud, but this is not the time to discuss this aspect of the problem.

It will suffice here to remark that the conception of the dynamic nature of the Instincts and their importance in shaping not only of the healthy, normal train of thought and activities, but also of the abnormal and morbid thought and conduct, is the most outstanding and promising viewpoint we have gained from psychoanalysis.

We will now leave the discussion of general problems and turn our attention to the consideration of practical problems — the early recognition of mental disorders. We will begin with general paralysis. The diagnosis of this disease should not offer any great difficulties, even to the general practitioner. The anamnesis is of great help. The patient is between 30 and 45, single or married, with no children, or first confinement results in a still birth, a gradually developing impairment of memory and lessened ability to apply himself to his usual tasks, forgetfulness, all of which he may be cognizant of or this change in himself may escape his attention. A history of a convulsion or convulsions, fainting attacks, loss of consciousness, transient loss of motion in a limb or limbs, or temporary aphasic disturbances are pathognomonic. Examination shows increased or diminished reflexes, slight slurring of speech, normal or Argyll-Robertson pupils, slight memory lapses, inability to give dates of important occurrences, mistakes in calculation. Only a few or more of these symptoms may be present. A lumbar puncture should be done and a lymphocytosis is the most constant finding. In hundreds of cases at the hospital I have never found it wanting; in fact we make a diagnosis of general paralysis on the increased cell count alone when the mental and neurologic symptoms are in themselves inconclusive, and we were never wrong on this score. Two other metasyphilitic disorders — Tabes and Cerebro-Spinal Syphilis, show a lymphocytosis and positive Wassermann in the spinal fluid, but the distinction is easy in Tabes. This disease shows definite prodormal symptoms — the crises, bladder disturbances and absence of mental symptoms. The tabetic type of General Paralysis shows the mental picture of Paresis plus some of the physical signs of Tabes. In Cerebro-Spinal Lues the interval between the primary chancre and the development of nervous symptoms is generally shorter. Paralyses, oculo-motor, monoplegias, etc., are frequent and lasting. Mental symptoms are absent. A depression or manic excitement may initiate General Paralysis, but remember that in manic depressive Insanity neither memory nor orientation is affected.

In the course of many an infectious disease or as a result of exhaustion from some chronic ailment, psychotic symptoms appear and are termed infection — exhaustion psychosis. Marked confusion, delirious utterances, and hallucinations are constant features. The association of the mental symptoms with the somatic disorder makes the diagnosis usually easy. The only warning one may give is this — that a maniacal condition lasting months with a typical picture of a manic phase of manic-depressive Insanity may follow after the subsidence of the exhaustive or infective features. In such cases we may say that the disease was originally mania, but that the distinctive features of this mental disorder were for a time clouded by a superimposed confusion originating in a somatic disease. The mental picture often shows unmistakable signs of both conditions — a manic mood breaking through the clouded consciousness or a tendency to flight and sound associations are discernible in the otherwise incoherent utterances of the patient. As a rule never prognosticate during a state of confusion with definite somatic symptoms, but wait until the acute mental symptoms have subsided. In an infective-exhaustive psychosis, the mental symptoms abate with the improvement in the physical condition.

Under traumatic psychoses we understand those temporary mental disturbances which follow some injury to the brain — a blow or fall on the head, fracture of the skull, cerebral concussion, etc. The important mental symptom here is confusion, oftentimes a delirium, epileptiform seizures, but the symptoms often mask a general paralysis, so one should examine carefully the reflexes and pupillary changes. A lumbar puncture is always indicated. A high cell count of the mononuclear variety indicates a metasyphilitic disorder or Cerebro-Spinal Lues and the trauma loses its significance as an etiologic factor.

Senile psychosis is easy to diagnose even in its incipiency — the age of the patient, the slowly developing mental infirmity, inability to retain impressions, loss of memory, childish behavior, are distinctive. To this must be added definite psychotic manifestations — a mild delusional trend, apprehension, hallucinatory experiences, etc., to distinguish the condition from simple dotage. We should also bear in mind that cerebral arterio-sclerosis in the aged may produce a picture not unlike Senile Dementia and that the two processes may coexist. We assume the existence of cerebral arterio-sclerosis from the following: transient or permanent paralysis, dizziness, asphasic symptoms, epileptiform seizures, attacks of confusion alternating with periods of comparative mental clearness, an exaggerated reflex and Babinski on one side, etc. If these symptoms occur in a middle-aged individual, we have a picture of pure arterio-sclerotic psychosis.

Alcoholic mental disorders present features so distinctive that their diagnosis is comparatively easy; we should bear in mind, however, that delirium, hallucinosis, confusion, fear reactions and tremors, the distinctive features in acute alcoholism and ideas of jealousy and a paranoid trend in more chronic forms of alcoholism, may all mask a general paralysis, which disease may appear under all disguises. Hence look for physical signs and make a lumbar puncture.

So far we have been considering organically conditioned psychoses and now will take up the affective mental disorders. The recognition of the kinship of mania and melancholia we owe to the labors of Kraepelin, who observed that a maniacal excitement may be followed by an attack of depression, and *vice versa,* and that the characteristic symptoms of both may be fused into one clinical picture, the mixed form of manic-depressive Insanity; Stupors are really extreme forms of retardations. Much is to be gained by viewing them all as affective reactions to internal and external situations — in other words the individual has recourse to a psychosis as the best means at hand to solve a conflict. If you will ask for reasons why any one should grasp at such means of solving a difficult situation in life, I will reply that people have committed suicide in similar situations. The onset of a manic excitement is almost always abrupt, is characterized by a rapid flow of words, sound associations, elated mood. The patient laughs, jokes, misidentifies people, and is ceaselessly active. The usual traits of the patient become accentuated — if he is bellicose and assertive, he may attack, become loud and threatening; if of a pleasant and kindly disposition, his activities may take the shape of mischievous interference, of indulging in witticisms and pranks. One should be able to recognize in a mild euphoria and a tendency to overactivity the essential traits of a manic or hypomanic condition. The depressed phase of this psychosis is not so abrupt in onset but there is a slight prodormal period of worry, irritability and brooding over some palpable mishap or failure; frequently a situation long ago forgotten is dragged to the front and made the object of extreme anxiety. This tendency to "hark back" is very common and shows the essential similarity of the regression in the psychosis to the regression in the neurosis. When the depression is marked, we have the typical picture of the sadness-retardation complex when it is difficult to receive a reply from the patient and his reactions generally are markedly reduced. Stuporous states leading to the abolition of all activity are the extreme development of the self-same tendencies. Stupors are fairly abrupt in onset; after a brief period of indisposition the patient becomes mute, allows saliva to accumulate and drool, passes urine and feces involuntarily, but he does not resist care. A distinct clouding of consciousness is infrequent — it is surprising how well preserved are the memories of the occurrences during the period of illness. Where this memory is faulty, it is due to that selective preoccupation with his own thoughts, phantasies, fancies, wishes, etc., which completely engage his attention. One is justified to speak of a narrowing of the field of consciousness, but not of an actual clouding of it.

DEMENTIA PRAECOX

In this disease we distinguish several groups — the classical distinction is made between hebephrenic, catatonic, and paranoid groups to which lately has been added a fourth — the simple deterioration type. The essential feature of all forms is the gradual development of a state of Dementia in which apathy, dulling of the emotions and a deterioration of the reasoning and critical faculties are characteristic manifestations. The very earliest indications of the disease may be wayward tendencies, a lack of interest and ambition to succeed in the usual vocation, a tendency to distraction so that you have to remind the patient repeatedly that you are talking to him. What strikes you most is the evident lack of appreciation of the gravity of such change. Almost always, sooner or later, some "idea" begins to dominate his thoughts. Let me cite you a case which I recently saw in consultation with Dr. Schultz of Brooklyn:

> A boy of 19 gradually developed peculiar traits, loss of interest, insomnia, has fits of laughter, walks the streets aimlessly, and speaks of having "infatuated" his 9-year-old sister, by which he means he assaulted her sexually. He can give no information how, when, and under what circumstances this occurred. Of course, the whole story is a pure phantasy. He is always self-absorbed, pays little attention to your conversation. Years ago he masturbated, but never had normal sexual intercourse. His malady dates back one year, possibly more, but the earliest symptoms are shrouded in mystery — no glimpse is afforded us as to the factors which by their combination have produced such results. You will recognize here the distinctive traits of a Hebephrenic Praecox — nobody but a praecox can speak of "infatuating his sister" without corresponding emotion at so outrageous a confession.

The catatonic group needs no detailed description — the typical symptoms which characterize this conditon — the catalepsy, negativism, echolalia, sudden and impulsive actions, are known to all of you. The stuporous states seen in catatonia cannot be mistaken for manic or benign stupors because in catatonia the resistiveness, constrained attitudes, sudden and abrupt changes are always characteristic. In contrast to this, the benign stuporous case impresses you with the naturalness of his behavior and reactions. The paranoid form of dementia praecox is characterized by the presence of numerous fantastic and vague persecutory ideas. One could never confuse Dementia Praecox paranoides with true Paranoia. In the latter there are true, systematically arranged ideas of persecution, slowly developing, but once having become systematized they never change. The patient supports his ideas by plausible argumentation. Once you grant him his major premises, the whole construction appears fairly reasonable. Not so in the praecox whose ideas change, are usually vague, and to which the term foolish notions would be more appropriate than delusions. One should have a clear conception of the origin and mechanism of paranoid ideas. In any acute psychosis with more or less clouding of sensorium a mild persecutory trend may manifest itself. A young married woman in a depressed state may express the idea that her husband has forsaken her and wishes her death that he may marry another. A bitter medicine administered to a woman in the puerperal period may start a train of thought and give rise to ideas of poisoning, for in illness or exhaustion the fear of death is never missing.

Gentlemen, I am nearing the end of this paper, which is already too long and has taxed your patience. I will omit, therefore, from consideration some minor mental disturbances. I have sketched here typical psychoses and indicated to you the salient features on which diagnosis must rest. The majority of cases one encounters in private practice and many in institutions are rather atypical and it taxes the acumen of even the best trained psychiatrists to give a proper diagnosis. There are diseases in which paranoid ideas are the deciding factor and others where the trend of thought, the ideas, imaginations and the character of the delusions are of prime importance in reaching a conclusion. There are still others in which our judgment will have to rest with the general conduct of the patient, the degree of deterioration of the emotions, of the intellectual faculties, memory, etc. One has to consider the environment, the milieu, in which a psychosis develops, and to take into consideration the character of the upsetting factors, for where the reaction is proportionate to the cause, the prognosis is decidedly brighter. One more word, and I will close! I have attempted to cover a wide range of subjects in a short space of time. If I have only succeeded to rouse in you a feeling of respect for psychiatry and its problems and you have gained a few practical points of orientation in this branch of medicine, I shall consider it worth while.

More about the

Collected Clinical Lectures

will be found on

Page XV

of the Advertising Section

EDITORIAL

A Splendid Opportunity

A LETTER from the Brooklyn Children's Aid Society outlines in a general way plans for extending the usefulness of the organization through the development of property that it has acquired at Wave Crest, Far Rockaway. For forty years the Society has conducted the Seaside Home for Children, under the management of Mrs. Douglass, at Coney Island. But, while this provided a two weeks' outing for mothers as well as sick children, it has been open in the summer only. The benefit to sick babies of Brooklyn cannot be given a statistical value, for service of this kind extends beyond the reach of figures and cannot be calculated, as our welfare uplifters love to do, in dollars and cents. Kindness to little children cannot be capitalized. Indeed, New Testament teaching, which dwells on loving service, nowhere hints at its money value, nor its economic value, nor, for that matter, its sanitary value. All these things may grow out of it, but it is primarily service for service's sake. Now the disposal of the Coney Island property has made possible the acquisition of a much more desirable estate, a most attractive situation as shown by the views that accompany the letter. The management, impressed with the vastly extended field for usefulness thus provided, has asked for suggestions. They say "Our thought has been directed somewhat strongly to convalescent care (pre-operative, post-operative or following prolonged general illness among children) as a field that as yet has not been sufficiently cultivated." There is still another field that has hardly been touched, although there are a few so-called "preventoria," and that is institutions for the proper care and instruction of growing children in whom pulmonary tuberculosis is probable, though not positively demonstrable. City conditions added to the limitations of small incomes have compelled many of our most desirable citizens to rear their families in so-called apartments (really little better than tenements, so far as room, air and light are concerned) and the problem is often met as to how one may provide the right surroundings for children who, without definite physicial or skiagraphic findings, suggest tuberculosis of the lung or bronchial lymph nodes — frequent bronchitis, fever without apparent cause, malnutrition, and the like. An experience last winter served to emphasize the difficulty of offering practical help to cases of this type. The patient, a little girl of twelve, was the oldest child in a family who had been compelled by force of circumstances to leave a comfortable home in the country to make a living in the city. Although cultured and highly educated, their limited means permitted only the most meager accommodations in a crowded tenement district. The effort was made to find a suitable place for the child, but inquiry at several appropriate agencies revealed how limited the facilities are for the proper care of cases of this sort. An institution that can accommodate a limited number of patients of from nine to fourteen years, not so limited as to be exclusive, nor so extensive as to preclude the individual study that is essential to successful treatment, is greatly needed and would be of great advantage, especially to those of limited means who have no influential friends to finance their sickness. Such an institution might be arranged on the cottage plan, providing units of ten or fifteen beds. This arrangement is capable of indefinite expansion and is limited only in acreage and endowment. It has the additional advantage that certain buildings can be set aside as pay wards and it permits of graded charges. This suggestion is offered for what it is worth. Again, there are very few American institutions for the application of heliotherapy, such as Rollier established in Switzerland. It has been shown that altitude is not essential for the successful application of this form of treatment. During the late fall, winter, and early spring, some of the proposed new buildings of the Society might be adapted to this purpose. As to the need for institutions for the pre-operative and post-operative care of children, it may be pointed out that the surgery of childhood differs materially from that of adult life. Conditions leading up to tonsillectomy need no preparation but demand prompt operation. Adenoids and mastoid infections demand prompt attention. So does appendicitis. Herniotomies do not call for pre-operative treatment. In fact, children's diseases, apart from tubercular disease of bones and joints are usually of sudden occurrence, if we except the nutritional disturbances and glandular imperfections. As to post-operative nursing homes for convalescents, there is more need, though the list of available institutions supplied by the Charities Directory is fairly adequate. It is noteworthy that the greatest lack among all types of sanitaria is in the class available for those patients of moderate and restricted means. The very poor and the well-to-do are better provided for, just as with general hospitals. It is respectfully suggested that the Society make a survey of this situation and see whether the conditions briefly reviewed above are not borne out.

H. G. W.

Similia Similibus Causata

FROM time to time the editorial pages of this magazine have presented thoughtful essays on the probability of many of our epidemic diseases being the human manifestations of afflictions peculiar to animals. Of course, it is knowledge of long standing that glanders and farcy may attack human beings; that animal parasites, as the rat flea, are intermediary hosts for human diseases; and that diseases which we usually regard as peculiarly human may attack animals — a fatal case of diphtheria was traced to a pet cat. But there is yet no and isolated localities, or the appearance of communicable disease in quarantined individuals who have not been in contact with a carrier. In this connection a report from the U. S. Public Health Service by Wheeler, Goldberger & Blackstock on the Probable Identity of the Chittenden-Underhill Pellagralike Syndrome in Dogs and "Black-Tongue" (Reprint No. 746) is of great interest. They quote the work of Chittenden and Underhill, who induced experimentally a pellagra-like condition, apparently identical with what veterinarians call black-tongue, by feeding a diet of boiled peas, cracker meal and cottonseed oil. If, as seems to be the accepted explanation, pellagra is a deficiency disease, the physiological similarity of dogs with human beings would make it seem quite rational to expect pellagra to ensue upon a long continued deficient diet. The point to emphasize is this: if dogs and men react alike to definite causes so that the resulting syndromes vary only in nonessentials, is it not reasonable to go a step further and postulate the probable identity of other diseases that manifest themselves in widely different ways? Some years ago a series of papers were published on the probable identity of human poliomyelitis with canine and feline distemper. Human diphtheria is said to be the same as roup in chickens. Identical cultures of bacteria vary widely in their growth upon different media. With these known manifestations, it seems quite rational to suspect that some of the apparently trifling affections of animals may prove to be identical with serious human diseases. If such is the case, of what use is ordinary quarantine, if domestic pets that may be carriers are not regulated? We are earnestly besought to swat the fly; the rat flea and the louse are anathema; even the harmless, necessary bed-bug is under suspicion; ticks are known to be venomous; mosquitoes have slain their thousands; but yet the "cat walks where he likes and all places are alike to him." So does the dog in less degree. Maudlin sentimentality protects cats and so far has prevented every rational effort to control their increase and their health-disturbing habits. Serious and determined attempts are constantly being directed toward human birth control (and it might not be such a bad notion, if it could be so limited as to automatically exterminate the sort of people that clamor most loudly for it), but what are a few babies, more or less, compared with our precious pussies? And the surviving babies caress the surviving pussies and presently polio appears!

H. G. W.

Obituaries

DEPARTMENT UNDER THE CHARGE OF WILLIAM SCHROEDER, M.D.

WILLIAM L. MULGAHY, M.D.

He was born in Albany, N. Y., and received his medical education at the Albany Medical College, where he was graduated in the class of 1903. He was in practice during the greater part of his professional life at Far Rockaway. He was surgeon to St. Joseph's Hospital and a member of the Queens County Medical Society, American Medical Association, and the Associated Physicians of Long Island, 1908 to 1922. He died at San Francisco, Cal., June 17, 1922.

ARTHUR RICHARD JARRETT, M.D.

Born in Brooklyn, N. Y., July 8, 1854. He was the son of James M. Jarrett and Sarah O. Heather. He was educated in the public schools of Brooklyn and was graduated M. D. from the Long Island College Hospital in the class of 1879. For a number of years he was Surgeon of the Thirteenth Regiment. A member of the Medical Society, County of Kings, 1899-1916, and the Brooklyn Pathological Society, Association of Military Surgeons, Naval and Military Order, Society of the Spanish-American War, Army and Navy Club, and Independent Royal Arch Lodge No. 2, F. and A. M.

Dr. Jarrett was married October 29, 1886, to Mrs. Annie F. Seal. He died in Brooklyn, N. Y., May 2, 1922.

JOHN ADDISON JENKINS, M.D.

Born in South Wales on March 28, 1842. After receiving his preliminary education he entered Bellevue Hospital Medical College where he received the degree of M.D. in the class of 1865.

The greater part of his professional life was spent in this city. He was a member of The Medical Society, County of Kings, from 1874 to 1912, and Reliance Lodge, No. 776, F. and A. M.

He is survived by his widow, Louisa E. Jenkins. He died in Brooklyn, N. Y., February 4, 1922.

MARTIN MESIC KITTEL, M.D.

Born in Ghent, N. Y., in 1867, the son of George H. and Mary J. Kittel. He was educated in the public schools and studied medicine at the University of New York, where he received the degree of M.D. in the class of 1891.

He began the practice of medicine at Kinderhook, N. Y., and came to Jamaica about fifteen years ago. During his professional life he was physician to the Ottilie Home, Mary Immaculate Hospital, and the Queensboro Hospital. He was a member of the Associated Physicians of Long Island from 1907 to 1922. He is survived by his wife, Carrie Davenport Kittel and two sons, Donald and George.

Dr. Kittel died at Jamaica, L. I., February 28, 1922.

EDWARD V. KENNEDY, M.D.

Born in Brooklyn, N. Y., October 25th, 1892. He was the son of James E. Kennedy, M.D., and Katherine Clark. He was educated at Phillips Academy, Mass., and the Brooklyn College. His medical education was received at the Long Island College Hospital, where he graduated in the class of 1919. This was followed as interne at St. Mary's Hospital. During his professional life he was connected with the Reserve Corps, United States Army; surgeon at St. Catherine's Hospital and St. Joseph's Female Orphan Asylum. A member of the Medical Society, County of Kings, from 1920 to 1922; Associated Physicians of Long Island, 1921 to 1922; American Medical Association; Alumni of St. Mary's Hospital.

Dr. Kennedy was married in 1918 to Bette Bent Benedict. Two children were the result of this union—James E. and Katherine Kennedy.

Dr. Kennedy died at Newburgh, N. Y., January 10th, 1922.

JAMES RUFUS BIRD, M.D.

Was born in New York City, July 4, 1834, a son of William Edmond Bird. He was educated in Trinity College, receiving the degree of A.B. in 1854 and A.M. in 1857. His medical education was at the College of Physicians and Surgeons, New York, graduating M.D. in the class of 1858. This was followed as interne in Bellevue Hospital.

During his professional life he was physician to St. John's Hospital. A member of The Medical Society, County of Kings, from 1866 to 1922.

Dr. Bird was married to Miss Marie L. Hoge in 1862. He is survived by his two sons, Edgar C. and William L. Bird. He died in Brooklyn, March 27, 1922.

CHARLES THEODORE SAUER, M.D.

Born in New York City, October 6, 1864. Son of William Sauer and Anna B. Goetz, both of Germany. He was prepared for the study of medicine at Trinity School. Entering the Long Island College Hospital he graduated M.D. in the class of 1885. This was followed as interne in St. Peter's Hospital. During his professional life he was physician to the Brooklyn Central and M. E. Dispensary. A member of The Medical Society, County of Kings, from 1889 to 1922; American Medical Association; Associated Physicians of Long Island from 1905 to 1922, and Minerva Lodge, No. 792, F. and A. M.

He is survived by his wife, Georgianna Rahming Sauer, and a daughter, Miss Constance Sauer. Dr. Sauer died in Brooklyn, N. Y., March 28, 1922.

AGNES SPARKS, M.D.

Born in Canandaigua, N. Y., in 1852. A daughter of Dennis Kieff. After receiving her preliminary education she began her medical education in the Medical Department of Leland Stanford University, where she was graduated in 1879.

During her professional life she was connected with the Department of Health and was a member of The Medical Society, County of Kings, from 1882 to 1922. She is survived by two sons, Frederick W. and Herlo J. Sparks.

THEODORE FRICKENSTEIN, M.D.

Born in Germany in 1836. After receiving his preliminary education he came to America. He matriculated with the New York Medical College, where he was graduated in the class of 1864. He practiced medicine in what was known as the Williamsburg section for 58 years. During the greater part of this time he was physician to the German Evangelical Lutheran Home for the Aged; a member of The Medical Society, County of Kings, from 1874 to 1914.

He is survived by two daughters, Minnie and Mathilda. He died in Brooklyn, February 22, 1922.

JAMES EDDY BLAKE, M.D.

Born in Jersey City, he was the son of James A. Blake, M.D., and Olive Eddy. He graduated M.D. from the College of Physicians and Surgeons, New York, in the class of 1898, and the University of Bonn in 1902. Physician to the Methodist Episcopal Home, and a member of The Medical Society, County of Kings, from 1903 to 1916.

Dr. Blake is survived by his wife, Margaret E. Pate; three daughters, Elizabeth H., Alice H., and Mrs. W. C. Houghtalling; a son, Robert C. Blake.

He died in Brooklyn, July 18, 1922.

ALEXANDER JOSEPH ROONEY, M.D.

Born in Ireland, June 20, 1839. Son of Edward Rooney and Blanche Hanrahan. Educated in the schools of Ireland, his medical education was received at Bellevue Hospital Medical College, receiving the degree of M.D. in the class of 1867. During his professional life in this city he was Inspector of the Health Department; Police Surgeon, and Coroner of Kings County. A member of The Medical Society, County of Kings, from 1868 to 1904; Associated Physicians of Long Island from 1911 to 1922; St. Patrick Society, Emerald Society, and Montauk Club.

His first wife was Margaret Bradley; his second wife Sophia E. M. Livermore, who, with a daughter, Margaret Byrne, survive him. Dr. Rooney died at Wrington, England, July 31, 1922.

Society Transactions

Transactions of the Brooklyn Surgical Society

Regular meeting of the Brooklyn Surgical Society, held at the Methodist-Episcopal Hospital, in the Assembly Hall of the Nurses' Home, Sixth Street, below Eighth Avenue, Brooklyn, N. Y., Thursday, April 6, 1922, at 8:30 p. m. The President, Robert F. Barber, M.D., in the Chair.

PROGRAM

1. "The Use of Radium" . . . . Dr. T. B. Spence
   Discussion by Drs. Frank D. Jennings, Robert F. Barber, and T. B. Spence.
2. "The Stewart Incision in Breast Amputations — Presentation of Patients" . . . . Dr. C. H. Goodrich
3. "The Prostate Cases Treated in the Last Two Years" . . . Dr. Howard Langworthy
4. "The Cases of Prolapse of the Uterus Treated by Hysterectomy in the Last Two Years" . . . . Dr. H. K. Bell
5. "Tranfusions" . . . . Dr. Roger Durham
   Discussion by Dr. Robert F. Barber, Emil Goetsch and Roger Durham.
6. "Statistical Report of the Surgical Work of the Hospital for 1921" . . . . Drs. S. G. Clark and P. A. Renaud
7. "Intestinal Resections" . . . . Dr. Arthur H. Bogart
8. "Some Gall-Bladder Cases" . . . . . . Dr. Russell S. Fowler
9. "Fibromyoma Uteri — Shall We Operate, or Use Radium or X-Ray — Statistics" . . . . Dr. Henry F. Graham

ROBERT F. BARBER, M.D., President.
THOMAS M. BRENNAN, M.D., Secretary.

The Use of Radium at the M. E. Hospital

T. B. Spence, M.D.
Brooklyn, New York

DURING the last few years there has been an ever-increasing demand for the use of radium in most of our hospitals, both general and special, and this matter has frequently been discussed in the Medical Board meetings of this hospital and also in the conferences with the Executive Committee of the Board of Managers. It was decided last year that the hospital should possess a sufficient quantity of radium to care for such patients as seemed to be in need of its use and a committee from the professional staff was appointed to advise in the purchase of radium and other necessary equipment, and to formulate some regulations for its employment in the institution. The management was soon persuaded of the desirability of owning its radium, and on the first of January, 1922, a supply of 150 mgm. of this valuable therapeutic substance was procured.

It seems probable that you might be interested to hear of our method of handling this agent, since, at the end of three months, the plan is working with great satisfaction. Our staff of attendings and assistants is rather large and it seemed improbable that we all could master the technic of the use of this substance, which is known to have power for evil as well as good. It was therefore deemed to wise to appoint as Custodian of Radium one of our staff, who was, perhaps, most interested in the subject and who would devote himself most assiduously to learning all that is to be known in the matter. Dr. John C. Graham had for some years been observing the use of radium, more particularly in diseases of the skin, and he eagerly accepted the opportunity of taking up the study of its wider use. He was appointed to fill the new position and is paid a salary by the hospital for this part of his work. He is the consultant in every case in which radium is employed by any member of the staff, advising as to the dosage, screening, method of application, etc. As assistants in the care of the radium a graduate nurse on duty at the hospital is assigned for each month in the year and all danger to any individual from long handling of the substance is thus avoided.

Our supply of radium is divided into units as follows: One tube of 50 mgm., one tube of 25 mgm., seven needles of 10 mgm. each, and one needle of 5 mgm. This proves to be a satisfactory division of the material, but our experience shows that another 50 mgm. tube instead of the 25 mgm. tube would be desirable in order that 100 mgm. may be used at one time in a more compact form than at present. A 10 mgm. plaque would also be useful. These additions would necessitate the purchase of 35 mgm. and would seem to make our equipment complete.

Our estimate of the probable demand for the use of the new therapeutic agent was not overdrawn, for it has been kept very busy most of the time since it came to us and it is quite the usual thing to have patients waiting their turn.

A list of the cases treated will show what we are attempting in this line:

Fibroid of uterus	4
Carcinoma of cervix uteri	5
" " prostate	4
" " oesophagus	1
" " cervical lymph nodes	1
" " breast	2
" " ovary and abdominal wall	1
" " bladder	1
Epithelioma of jaw	2
" " eye	1
" " eyelid	1
" " lip	2
" " scalp	1

“ “ wrist	1
“ “ nipple	1
“ “ thigh	1
“ “ tongue	1
Tumor of parotid	1
Sarcoma of groin	1
“ “ tonsil	1
Keloid of neck	1
Giant cell tumor of radius	1

Some of the patients were subjected to operation as well as the influence of radium, and in certain instances operation was not resorted to because of some positive contraindication. Many of them were radiated a number of times. Our first patient was treated on January 6, 1922, and all of the cases are too recent to judge of final results. No attempt will be made to review them at this time, although a great improvement can be seen in many and in a few a cure seems already to have been effected. The necessary expenditure of time and money have at least been justified. What is of equal interest, perhaps, to the members of this society is the evidence that a general hospital can readily collect from its patients an income sufficient to carry overhead expenses as well as to provide for a moderate sinking fund.

DISCUSSION

Dr. Frank T. Jennings:

“I would like to ask two questions of Dr. Spence:

“1. What the radium cost; and

“2. What their method is of charging patients for its use.”

Dr. T. B. Spence:

“I haven’t the exact figures now as to the cost of the radium, but I think it was somewhere between $15,000 and $16,000. I do not know how the money was raised, but the hospital considers it a perfectly legitimate investment. The returns are enough to cover all of its expenses, to pay a salary to the custodian, to pay for the insurance, and to still have a sufficient income to consider it a proper investment. They have been rather generous in the matter of charging patients. The highest charge for one application of radium, regardless of the dosage, is $75. The after charges are less than that for such a patient—much less; I have forgotten the exact figure. The charges are graduated from that price down according to the ability of the patient to pay, and they feel quite certain, from three months’ use of it, that those charges will carry all expenses. If they do not they can easily be raised. Patients can pay more than that and they do in most places, I understand.”

Intestinal Resections

Arthur H. Bogart, M.D., F.A.C.S.
Brooklyn, New York

During the years 1920 and 1921 there were admitted to this hospital 18 cases in which a resection of the intestine was found necessary for the relief of symptoms.

In these 18 cases the pathology was found to be:

Intussusception	3 cases
Strangulated hernia	3 “

Carcinoma of the colon	11	"
New growth of the small intestine	1	"

The age of the patients varied from 3 months to 64 years. Two cases of intussusception occurred in children, one a male, age 5 years, the other also in a male 3 months old, and the third case in a female 50 years of age, due to a new growth near the mesenteric border of the small intestine.

Of the cases of strangulated herniae all three occurred in adults, two females and one male. One was an umbilical, one a femoral, and one an inguinal hernia, and all three were strangulated at the time of admission to the hospital.

Of the 11 cases of carcinoma 9 were in females and 2 in males, and in all but the one mentioned above as producing intussusception, the growth was found in the large intestine, or, to be more exact as to location, one was in the cecum, 2 in the transverse colon, 2 in the hepatic flexure, 4 in the splenic flexure, one in the ascending colon, and one in the small intestine.

The duration of the symptoms varied. In the cases of intussusception the patients had had symptoms for twenty-four hours, four days and five days, respectively. In the cases of strangulated herniae the symptoms averaged two days. In the cases of carcinoma an indefinite history of constipation, pain, and loss of weight was obtained, dating back on an average of about four months, but the onset of symptoms demanding immediate relief were, in most cases, of much more recent date, and were those of intestinal obstruction of but a few days' or a few hours' duration.

The Miculicz operation was done in 4 cases, 3 cases of carcinoma of the large intestine, and one case of strangulated umbilical hernia. In one case an end-to-side anastomosis was done, and in another (a case of strangulated hernia) no attempt at repair was made on account of the condition of the patient.

In the case in which an end-to-side anastomosis was done, with recovery, the patient was readmitted to the hospital about seven months later suffering from intestinal obstruction, due to a recurrence, and was relieved by an ileosigmoidostomy, after which he lived for about four months.

The pathological report confirmed the surgical diagnosis in all of the cases.

Two of the cases were discharged as improved, 11 recovered, and 5 died.

The average stay in the hospital was about 40 days.

Of the cases that recovered from operation there were four known recurrences and seven cases were reported as well, one of them after a resection of the growth and colostomy, and the others with resection.

Following is a brief abstract of the histories of the cases which died:

No. 88059.—E. A., age 45, male; admitted December 10, 1921.

Chief Complaint—Large swelling in the right lower abdomen, nausea, vomiting and constipation.

Past History—Irrelevant except for the fact that the patient states that he has had a swelling in the right inguinal region for ten years.

Present Illness—Two days before admission the patient felt a very severe pain in the right lower abdomen, apparently not due to exertion. At about the same time a swelling appeared in the same region, which became quite large and painful. Twenty-four hours later the patient began to vomit and has been unable to retain anything on his stomach since. There has been no bowel movement since the onset of the trouble. The patient was brought to the hospital by ambulance in a critical condition.

Examination showed a tumor in the right inguinal region, about the size of a small grapefruit, extremely tense and tender, the diagnosis being strangulated inguinal hernia.

Operation — The usual incision was made. The sac was found to be gangrenous. Upon opening the sac it was found to contain the cecum, about one inch of the large bowel, along with two loops of small intestine, about two feet removed from one another, the intervening small gut being retained within the peritoneal cavity, which, upon being delivered, was also found gangrenous, as well as its mesenteric attachment. The gangrenous portions of gut were resected, but the patient's condition did not warrant repair of the wound and he was returned to the ward with clamps attached, and died shortly after. Post-mortem examination of the wound showed large quantities of serosanguineous fluid in the abdomen. There was no further gangrenous process of the bowel beyond the point of resection.

The cause of death in this case must be attributed to the condition of gangrene and peritonitis, and not to the operation.

No. 79906.—McC. M., age 55 years, female; admitted September 9, 1920.

Chief Complaint—Generalized abdominal pain. Marked constipation.

Past History—Irrelevant except for history of constipation.

Present Illness—Four months ago the patient was seized with acute abdominal pain, lasting about ten hours. The pain was intermittent in character and had recurred every other day up to the time of admission to the hospital.

Vomiting came on slowly after the onset of the pain, and she was unable to retain much food during the attacks. The vomitus was yellow, and at times black in color, and accompanied with the eructation of large quantities of gas. She has lost about 40 pounds in weight.

Associated with the pain and distention the patient has also suffered from shortness of breath and cough.

Examination—Abdomen moderately distended in the lower half. No definite mass palpable. No rigidity. Slight general tenderness present.

Diagnosis—Carcinoma of colon. Partial intestinal obstruction.

Operations—Two operations were done in this case, the first, an exploration, which revealed a carcinoma of the splenic flexure of the colon. A colostomy was done for the relief of the obstruction, following which the patient did well, and twenty days later the growth was excised and an end-to-end anastomosis done. The patient died three days later with a rising pulse and rather persistent vomiting, the temperature not going higher than 100 degrees. Myocarditis is entered on the chart as a complication.

No. 76002.—A. C., 44 years, female; admitted December 2, 1920.

Chief Complaint—Pain in lower abdomen, right side, and loss of weight.

Past History—Unimportant except for loss of weight, 40 pounds in the last year, and pain in the right side.

Present Illness—Began about two years ago with pain in the right side of the abdomen. The pain has never been severe and is not constant, but has been apparently worse after meals. At times it has awakened her during the night. The pain is growing more severe and the attacks have been more frequent of late. The patient has not suffered from nausea or vomiting.

Examination revealed an indefinite mass in the region of the cecum and ascending colon and an enlarged and retroverted uterus, probably containing a fibroid.

Operation disclosed a growth in the ascending colon and a small fibroid of the uterus. The growth in the colon was resected and a lateral anastomosis made between the transverse colon and the ileum.

This patient developed a severe colon infection in the abdominal wound, which broke down and was followed by a profuse fecal discharge, which excoriated the skin and evidently came from a leak in the small intestine. The patient failed to improve and died at the end of about four weeks after the operation. The failure in this case was due to infection and may be ascribed to faulty technique.

No. 80501.—E. W., age 58 years, female; admitted October 18, 1920.

Chief Complaint—Pain in the abdomen and constipation.

This patient's history was as follows:

Two months previous to admission to the hospital, following a meal, she was suddenly seized with pain throughout the abdomen. This pain lasted about two days and was accompanied by constipation, which was finally relieved by the use of cathartics. One month later she suffered a similar attack, which responded to cathartics and enemata. One week previous to admission, following a dinner, she was suddenly seized with intense colicky pains, which were general throughout the abdomen. She vomited several times and failed to obtain relief from cathartics and repeated enemata.

Abdominal examination showed some distension and general tenderness, but no muscular spasm, and no masses could be palpated. She was operated upon the day following admission and an annular carcinoma of the splenic flexure of the colon was found to be the cause of her symptoms.

Operation—Resection of the growth and accompanying mesenteric glands and an end-to-end anastomosis of the intestine were done. She made a rather smooth recovery from the operation, but subsequently developed signs of pulmonary involvement, which later proved to be a metastatic involvement of the left lung and pleura.

Pathological Report—The specimen is a section of the large intestine, 7 cms. long. Encircling the gut, and practically occluding the lumen, is an annular tumor showing all the characteristics of carcinoma. Microscopic examination showed it to be carcinoma of the large intestine and lymph nodes.

In this case, then, we have recovery with relief of symptoms, as the result of operation, and death from metastasis three months later.

No. 77856.—J. G., age 3 months, male.

Chief Complaint—Vomiting and bloody stools.

Present Illness—Five days ago the baby seemed perfectly well and had a normal stool. Four days ago he had a greenish stool. Since then he has passed no fecal material, but has suffered from tenesmus and has passed considerable quantities of blood and mucus. He has vomited three times during the last twenty-four hours. The patient appeared blue several times before being brought to the hospital, so much so that the relatives thought he was dying.

Examination—Patient apparently in shock. Abdomen distended and very tender. An indefinite mass can be palpated in the right side of the abdomen. Rectal examination not noted.

Diagnosis—Intussusception.

Operation—Disclosed an intussusception of about four inches of the ileum into the cecum, apparently being held down by a cord-like band. Reduction was found impossible, and a resection of the ileum and a portion of the cecum and a lateral anastomosis were done. The patient died not rally from the operation and died a few hours later.

The following case is of interest, as in our experience it is comparatively rare:

No. 86091.—A. B., age 50 years, female; admitted July 28, 1921.

Chief Complaint—Pain in the abdomen.

Present Illness—Five weeks before admission the patient first noticed pain in the abdomen, from which she recovered, and remained well up to two days before coming to the hospital, when she was again seized with abdominal pain, nausea, vomiting and constipation.

Examination showed the abdomen to be soft, with no tenderness and no masses. Rectal and vaginal examination were negative.

Diagnosis—Acute intestinal obstruction.

Operation—Showed an intussusception of the small intestine, due to a new growth attached near the mesenteric border. This was irreducible. A resection was done and a lateral anastomosis made. Examination at the time showed no further evidence of trouble.

The patient made an uninterrupted recovery from this

> operation and was discharged at the end of twenty days.
>
> Not more than six weeks later, however, she had a recurrence of her symptoms and was again admitted for intestinal obstruction. Operation at this time disclosed multiple growths throughout the intestines and omentum, with a second intussusception due to the same cause as the previous one. Because of the extent of the disease, which made it inoperable, a short circuit operation was done, which relieved the obstruction, but the patient died two weeks later from exhaustion due to the disease.
>
> The pathologist's report in this case is as follows:
>
> Sections show a tumor composed of large round or reticulated cells originating in the submucosa, penetrating the bands of muscle fibers, and destroying the overlying glandular epithelium.
>
> Diagnosis: Lymphosarcoma of the small intestine.
>
> This is but the second case of malignant growth of the small intestine that I have encountered.

The other case occurred in a man about thirty-five years of age and was accompanied with much loss of weight, pain, and obstructive symptoms. I operated in this case and resected the growth, doing an end-to-end anastomosis. He made a good recovery and remained well for about one year, when he again began to have trouble. He was operated again and a resection done, after which he lived for about six months, and finally died from a recurrence which became general throughout the abdomen.

In looking over these cases, one is impressed by the fact that for the most part they were admitted with symptoms of intestinal obstruction, which is at best a desperate condition to deal with, and I think we have been more and more impressed with the advisability of doing as little surgery under these conditions as possible, being content with the relief of the obstructive symptoms for the time being, and leaving the major operation of resection until the patient's condition has improved. It is perhaps for this reason that the Mickulicz operation has been growing in favor since its advantages have been called to our attention by Dowd's article in the Annals of Surgery, 1920.

Of course, it goes without saying that there are many cases in which the radical operations are imperative, but whenever possible, some palliative operation should be the one of choice, particularly in the cases of new growth, as any radical operation in the presence of intestinal obstruction, however slight, is attended with a high mortality, and should, therefore, be undertaken only under the most favorable circumstances.

Intestinal resection at best is a major operation in the hands of any operator, however skillful, and will be attended with a definite mortality, the chief causes of failure being due to infection, faulty technique, and the condition of the patient. Whether a lateral anastomosis, an end-to-end or an end-to-side anastomosis should be done must be left to the preference of the operator. Despite the criticisms against it by some, we have used the lateral anastomosis in many of our cases and with much satisfaction.

A more accurate study of the histories of the cases reported as having died, shows that two of them were admitted in a practically moribund condition, viz., one case of strangulated hernia and one case of intussusception. A third case reported as having died from pulmonary metastasis, recovered from her operation, and a fourth case died from exhaustion following a recurrence and a short circuit operation to relieve intestinal obstruction.

This leaves but two cases in which death can be ascribed to operation, and in one of these a definite history of myocardial disease was noted before operation. There remains, therefore, but one case in which the fatal outcome can be said positively to be due to operation.

Time does not permit a report of the cases which have been reported as recovered. The following brief follow-up notes may be of interest in these cases:

> Case No. 80868.—Carcinoma of the colon, gastrocolic fistula, Mickulicz operation. Returned four months after her first operation, when the following note was made: Examination shows a hard, calloused ulcerating scar in the middle of the incision. The patient complains of soreness and discomfort in the intestines. The bowels move regularly. She has lost considerable weight in the last few weeks. Exploratory operation with excision of the scar advised. She returned and was found to have a recurrence in the transverse colon. This was excised and an end-to-end anastomosis done. The patient was discharged about four weeks later. She does not answer follow-up card.
>
> Case No. 86559.—Carcinoma of the splenic flexure of the colon. Mickulicz operation. Patient alive and well at the time of writing, eight months after operation.
>
> Case No. 82606.—Carcinoma of the colon. Mickulicz operation. Patient was alive and well one year after operation.
>
> Case No. 77893.—Malignant growth of the colon. Resection, lateral anastomosis. Patient alive and well two years after operation.
>
> Case No. 82062.—Carcinoma of the head of cecum. Resection and lateral anastomosis. Patient is well one year after operation and following his usual occupation, that of an engineer.
>
> Case No. 88167.—Intussusception. Resection and lateral anastomosis. Patient has had no further symptoms.
>
> Case No. 87734.—Carcinoma of the sigmoid. Colostomy and resection. This patient is alive and well, but still has a colostomy, which gives him very little trouble.
>
> Case No. 77142.—Carcinoma of the hepatic flexure of the colon. Resection and end-to-end anastomosis. There is no follow-up note on this case.
>
> Case No. 81514.—Strangulated umbilical hernia. Mickulicz operation. Patient is alive and well.
>
> Case No. 80672.—Recurrent carcinoma of the colon. Ileosigmoidostomy. Patient died within six months after his last operation.
>
> Case No. 82606.—Carcinoma of the splenic flexure. Mickulicz operation. Patient is alive and well eleven months after operation.
>
> Case No. 81788.—Strangulated femoral hernia; gangrenous

gut. Excision. No attempt at radical cure of hernia on account of infection. Patient returned three months later with a small femoral hernia at the site of operation. Was advised to return for further operation. She did not return, but wrote about nine months later, saying that she was not feeling strong.

Case No. 78476.—Carcinoma of the splenic flexure of the colon. Colostomy, excision, and end-to-end anastomosis. This patient was alive and well one year after operation.

In conclusion, I may add that I prefer the lateral anastomosis between the large and small intestines, avoiding blind pouches at the ends as far as possible. We have always used clamps. For suture material we use Pagenstecher for the serous coats and chromic gut for the mucous and muscular coats. In the small intestine we prefer the end-to-end anastomosis, although in two of the cases reported, for various reasons the lateral operation was done.

In making these operations the question of infection is a very serious one and is to be avoided in every possible way. No matter how well the operation may be done, if the operative field becomes infected, the chances of recovery are very greatly reduced, if not entirely destroyed. Here the services of a well-trained assistant are well-nigh invaluable in protecting the operative field.

Blood Transfusions

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THE use of blood transfusion for the relief of certain very definite pathological conditions has occupied a small but important place in the work of the year 1921 at the Methodist Episcopal Hospital.

That the professional staff has shown a too great enthusiasm to resort to this surgical procedure, no one could claim upon a careful research of the cases so treated. And the converse may be stated: that is, that this measure may be made use of in cases where it is not definitely called for, the study of the cases of some reporters, one must agree, will prove: That it is a simple procedure and comparatively safe under recent technique and careful laboratory tests of blood compatibility will also be agreed to, but these facts do not excuse its use except in the presence of definite indications, in the opinion of the writer.

There is little justification for it in conditions that would come to complete restoration to normal health in a comparatively brief time under hygienic and therapeutic treatment, merely because a transfusion would allow the discharge of a patient from a hospital in a shorter time. The time saved is no indication for operation in the main.

Under the greatest care there is always an element of danger, and a degree of reaction may be noted in a majority of patients so treated; and in additon to the risk of haemolysis there may be always present the danger of implanting a specific disease, or some local infection. While these occasions are rare, they must not be ignored as such.

Blood transfusion is only one of several means of restoring to health patients suffering from loss or diseases of blood, and, as such, must be tested in the balance with other simpler and safer measures.

The question of securing a donor has become easier since the establishment of a registry of professional donors, who have been tested and grouped according to certain classes. In using such donors, however, it has been found safe to retest before operation, to avoid sensitization after the elapse of time. Without retesting with the recipient's blood, no donor should be used except at urgent call. The professional donor is too often an autocrat, with ideas of his own as to how he is to be used, how much blood he will give, and is definitely opposed to having his veins exposed by incision; and this attitude, which is right enough from his viewpoint, may prove embarrassing to the operator.

The relative or family friend is free from these objections, and in using such a one the surgeon is freed from this disturbing element. More time may be expended in obtaining such a donor, but correspondingly more peace of mind is secured, and so the non-professional donor appeals to the writer in the abstract.

As a hospital routine all transfusions are performed in the operating room, where ideal surgical conditions obtain, and smooth technique can be carried out to the greatest degree. Such procedure in a private room or ward disorganizes the nursing staff, spreads confusion, courts difficulties and failures, and exposes all to disappointments, if not real danger.

In the choice of methods but two are at present in use, namely:

1. The citrate, and
2. The direct method of Miller; and the records show that in some thirty transfusions given the choice was fourteen of the citrate and sixteen of the direct.

What were the indications considered as requiring transfusion? I find six cases of pernicious anemia, two cases of hemorrhage from carcinoma of the cervix uteri, two cases of septicemia, two cases of secondary anemia, one of hemophilia, one of cholemia, and one of malignant endocarditis and sepsis.

Let us consider some of the case histories—taking up first the pernicious anemia group.

Case No. 10.—A woman of 41 years with a red count of 912,000 received 350 c.c. citrated blood, and next day showed a gain of 40,000 and on the sixth 400,000. By the 13th day this had dropped to 1,000,000, when a second citrate transfusion brought the count up another 400,000, which gain, however, was not held. She was discharged at the end of four weeks, as further transfusions were deemed useless. This woman exhibited a marked reaction with a rise of temperature to 102-6° and irrational signs at the first operation. She was in the active stage of the disease.

Rather similar to this is Case 15, a man of 20 years. Four citrate transfusions at weekly intervals, using 250 to 375 c.c. of blood without reaction, brought up the count about 400,000 from 900,000, which gain became a loss by the weekend,. and he was discharged to the trial of country life unimproved.

Again a woman of 55 with a five-year-old history and a count of 1,100,000 and 30% Hgb. exhibited 2,616,000 reds and 60% Hgb. after 400 c.c. citrate blood, with headache as the only reaction. This gain held but a few days and at the end of 4 months she was discharged as beyond help from this treatment.

Case No. 13 with under 2,000,000 reds and 43% Hgb. received 644 c.c. of blood and 23 c.c. of saline Miller method, and gained one half million, and vomited once with no chill, and was discharged improved. This was evidently a slight reaction.

Case No. 11 was treated 5 months and was finally discharged unimproved. She was a woman of 40 with a six months' history and received five transfusions of citrated blood at intervals of about a month each. She had severe reactions on three occasions, with prolonged chill and a temperature rise to 105°. Her anemia was extreme —counts ranging from 450,000 to 1,176,000 and hemoglobin of 10 to 35%—and the disease was in an active stage throughout her stay in the hospital.

Case No. 2 is the only one of the group that gave us any encouragement as to the value of the treatment—a man of 65 who received on first admission three direct transfusions of 425 to 800 c.c. at two and six-day intervals, during which time his count showed a gain from 992,000 to 3,300,000. He went back to his occupation, that of a minister, and was fairly well except for an attack of enterocolitis, for nineteen months. He was readmitted with a count of 1,500,000 and received three more transfusions at weekly intervals, gaining one half million at each treatment, but losing 100,000 per day thereafter until his death twenty months after his first treatment.

In reviewing further cases—to be noted is one of secondary anemia due to bleeding from a fibroid uterus, which patient received two citrate transfusions, and went through the necessary hysterectomy, and was discharged after three weeks showing a gain of a million. She had chills and fever with each transfusion.

Another designated endocrine bleeding received a radium treatment on November 19, and ten days later 500 c.c. citrate blood for secondary anemia. Ten days later 50 mg. radium for twelve hours were necessary to cure the hemorrhage, since which time this patient has menstruated normally.

Two cases of carcinoma of the uterus received direct transfusion preparatory to operation. The first with a count of 2,880,000 and 27% Hgb. was given 510 c.c. and two days showed a gain of 1,600,000 cells and 43% Hgb. A hysterectomy was performed without danger. The second, with two and a quarter million reds and 18% Hgb. received 407 c.c. with a gain of one million reds and 22% Hgb. Cauterization of the cervix with a laparotomy for manual control was done and four weeks later 75 mg. radium for sixteen hours were applied. This woman died six weeks later of sudden hemorrhage.

A female of 45 years with chronic pancreatitis and cholemia for three months, could not be considered an operative risk because of a coagulation time of twenty-five minutes. A direct transfusion of 536 c.c. was given, the coagulation time was reduced to five minutes, and a rapid cholecystostomy was performed without undue bleeding.

A man of 24 years had been bleeding from the socket of an extracted tooth for five days, and all measures to control failed, until a direct transfusion of 500 c.c. caused immediate cessation of the hemorrhage.

The three cases of sepsis are of interest, all being in men who were chauffeurs by occupation.

Case No. 9 a man of 22 died at the end of four months from malignant endocarditis, polyarthritis, splenic and kidney infarcts. Pathological findings were streptococcus viridans endocarditis with blood stream infection due to the same organism. A single direct transfusion of 300 c.c. made no impression upon the disease.

Case No. 8 a man of 32 had a nephrectomy performed for pyonephrosis. A non-hemolytic blood stream infection followed, for which three direct transfusions of 300 c.c. at weekly intervals were done without reaction. The improvement was immediate, and a sterile blood obtained one week later. A prostatic abscess was also incised. Cure was obtained in two months.

Case No. 10, a man of 37, suffered from vegetative endocarditis and blood stream infection following a primary polyarthritis. Five hundred c.c. citrate blood were given. A severe chill, temperature 102-6° and spine pains followed. The attending considered this case greatly helped by the transfusion and the patient was discharged cured after five weeks.

The outcome in this small group of cases coincides with observations of the majority of physicians who use blood transfusions. The measure is indicated and benefit assured in all cases of secondary anemia when the original cause can be controlled, or as a means to restore a patient to a condition that will allow an operation for the removal of the cause, as bleeding fibroids, trauma with hemorrhages, cancer of the cervix, and ectopic pregnancy, etc.

It is almost a specific in such blood diseases as hemophilia, purpuria, etc. It will shorten the coagulation time in cholemia. It will aid greatly in combating sepsis and blood stream infection. It will restore the hemic content in pernicious anemia, but this gain will not hold excepting during the period of rest or inactivity, and at best the fatal end is postponed. Its use is called for only in conditions of such severity or kind that they may not be expected to yield to therapeutic measure. In using citrate transfusions all must expect some reaction in a greater proportion of cases, and finally the direct transfusion with unmedicated blood appeals to the writer in all cases where diseased blood is present, as hemophilia, pernicious anemia, choliemia, etc.

DISCUSSION

Dr. Robert F. Barber:

"Dr. Durham reports a bleeding tooth case with excellent results. I would like to know if he can tell us the coagulation time before transfusion. He failed to mention that.

"In the preliminary part of his paper the doctor made the statement that the reason why the donor should be tested more frequently, perhaps with every transfusion, was because the individual would change in type. That statement was a surprise to me because I had always considered, perhaps in ignorance, that the type remained constant throughout life—that Type 1 was always Type 1, Type 2 always Type 2, Type 3 always Type 3, and Type 4 always Type 4; that they were constant provided one system was used to determine the type. If you follow the Morse ? system you get a type which is constant all through life.

"I would like to ask the reader of the paper those two points—the coagulation time before transfusion in the case of bleeding from the tooth, and also about the change in type with the advance in age."

Dr. Roger Durham:

"I cannot answer the first question as to the coagulation time. That may have been on the chart. It probably was, but I neglected to get it.

"I am sorry that Dr. Smith, our pathologist, isn't here to answer the second question. I know he has told me he discovered in re-testing some of these donors that they may be in one group at one time and after an interval of having given their blood he has found that they will be in a different group. In fact, we had a very near accident. We had one very severe reaction where the same donor was used twice and the second time he was used without matching the recipient's blood, and a reaction followed which came very near being a fatality, and on retesting him it was found that his blood was not of the type it was originally.

Dr. Smith is out in Rochester. He knows more about that. I don't know much about that side of it."

Dr. Robert F. Barber:

"After a person has received a transfusion from one donor more than once the patient develops a number of antibodies to that foreign blood, and for that reason a donor that is used once might be incompatible for a second or third transfusion, and I think that is probably what the pathologist meant, not necessarily that the type of the donor changes, but that his compatibility for that particular recipient changed with the second or third injection. I do not believe that his type changes. The donor's type remains constant throughout life. I would like you to look that up, doctor. Is there any member of the Society who has any information on that point? Dr. Goetsch, how about you?"

Dr. Emil Goetsch:

"I happen to remember that point, but we do know that tissue remains specific throughout the life of any organism for that matter, and I see no reason why it should change because these are fundamental pathological phenomena that do not change really in the life of the organism."

The Treatment of Fibromyoma of the Uterus

Henry F. Graham, M.D., F.A.C.S.
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IN ORDER to give the proper care to a patient with a fibromyoma of the uterus at the present time it is necessary to consider three different methods of treatment — operation, the use of radium, or X-ray therapy.

In a general way it may be said that radiation does three things. It stops hemorrhage, it either partially or completely destroys the ovaries, and it will cause a lighting up of quiescent inflammatory processes.

Hence it is possible to lay down the following broad contraindications to the use of radium or X-ray:

Do not use them if pain is present, for it usually means pelvic inflammation.

Do not use them in large doses in any patient under 35 years or 40 years of age, for a permanent menopause will result.

Do not use in fibroids larger than a grapefruit or in large submucous fibroids that might become necrotic or when there are symptoms of pressure on the bladder or rectum.

Small symptomless fibroids are best left alone. Most important of all, never radiate unless you can absolutely exclude a cancer of the fundus of the uterus.

But, I hear some one say: "You have ruled them all out."

No! There is a considerable group of patients over 35 years of age with small bleeding fibroids in whom there is no suspicion of cancer or pelvic inflammation. One may well hesitate in these cases and question whether he should use radium or operate.

If some strong contraindication to operation is present, such as profound anemia, a bad heart, great obesity, nephritis, diabetes, etc., by all means radiate.

On the other hand, if there is no contraindication to operation, I personally feel that it is better in most cases to operate. For in this class of cases the operation is a short one, the post-operative disturbances are slight, and complete and permanent recovery results. The expense may be slightly greater and the time consumed a little longer, but we must remember that radium and X-ray treatment is not by any means pleasant or enjoyable. Most of the radium patients vomit off and on for the entire time that the radium is in the uterus (24 hours). An anaesthetic is necessary for its insertion, and crampy uterine pains occur. I am inclined to believe that the suffering is as great as from a hysterectomy, in many cases.

I am indebted to Dr. Bayles for the following details of X-ray therapy:

Three treatments are usually enough. Occasionally four or five are needed. In every case there is a marked shrinking of the fibroid. One hundred thousand volts are used with the tube placed 10 to 12 inches from the skin.

The lower abdomen is divided into 4 or 6 areas in the bad cases or three areas commonly. One area is treated while the others are covered with lead. The rays are directed down into the pelvis. Five milliamperes are used for 9 to 10 minutes to each area.

Some have nausea and general toxaemia for 24 hours. This may start from 4 to 12 hours after treatment. Most cases have no nausea or vomiting, just a general malaise. Hemorrhage will stop in 12 to 48 hours after the first raying. The second treatment is given ten days later. The effects persist for 2 to 3 weeks after a raying. Before giving the third treatment wait for the time of the normal menstruation or 3 weeks at least.

Dr. Clark of Philadelphia recently gave some of us who are here tonight a splendid clinic on the use of radium in these cases. I quote from him: "Insert 50 milligrams of radium for 24 hours, preferably just after a menstrual period. Tell the patient, 'Don't expect anything for 6 weeks'; 'You may even be worse.' We, however, do expect that she will never have another flow. We expect a sticky, yellowish leucorrhoea for 6 to 10 weeks."

Dr. Clark uses radium in about one-half of his fibroid cases. It is inserted in a long greased rubber tube and anchored to the cervix in a special way to retain it and at the same time facilitate removal.

I have reviewed all the cases at the Methodist Hospital discharged during 1921 and filed in our record room under a diagnosis of fibromyoma uteri or fibroids. There were 71 in all; 65 were operated upon and 6 had no operation. There was one death from myocarditis three days after operation. Ten different surgeons operated upon these cases. There were 53 supracervical hysterectomies; nine complete hysterectomies by the abdominal route; one vaginal hysterectomy; two myomectomies; four removals of polypi.

In forty cases both tubes and ovaries were removed.

The chief complaint noted was hemorrhage in 48; 12 had pain as a predominating symptom; in 8 the general symptoms were more marked than the local pelvic ones; 9 came because of an adbominal tumor; 2 for leuchorrhea; 1 for difficulty in urination; 2 for frequency in urination; 2 for constipation; and 1 for a weight in the pelvis.

The common association of cardiac weakness with fibroids is well known. In this series 30 showed signs of cardiac disturbance, shortness of breath, dilatation, irregularity, murmurs, or weak muscle sounds. In practically every case where blowing murmurs were present, however, the red cell count and hemoglobin were reduced.

The following complications were noted: Acute gangrenous cholecystitis, once; ovarian cysts, several times; thrombophlebitis in two cases; broncho-pneumonia, one case; pregnancy and incomplete abortion, once each; femoral hernia was associated with the fibroma in one patient.

One unlucky individual had dermoid cysts in addition to her fibroid and during convalescence from operation developed double parotitis and intestinal obstruction, but possibly, we should say, one lucky individual, because she eventually recovered.

Of the cases without operation, one had carcinoma also, and was inoperable; two received radium, and one was referred elsewhere for radium because the hospital at that time did not own its own radium. One signed a release, and one was packed only.

We feel that 65 of these operations in succession with only one death and with very little post-operative morbidity, and with practically 100% good follow up reports, is a strong argument in favor of a complete and permanent removal of the disease by an operation which permits of an examination and rectification of other diseased conditions at the same time. Radiation has a definite field of great usefulness in specially selected cases and we intend to use it more in the future.

Review of Cases of Prolapsus Uteri Treated by Vaginal Hysterectomy at the M. E. Hospital During 1920 and 1921

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IN THE operative treatment of prolapse of the uterus there are many factors to be taken into consideration. The choice of operation depends upon time-relation to the menopause, size of uterus, complicating intra-uterine pathology, vaginal or abdominal complicating lesions, severity of prolapse, operative risk, etc. Any or all of these conditions must be carefully considered in influencing the surgeon in the selection of the type of operation to effect a cure in the individual case.

During the years 1920 and 1921, vaginal hysterectomy was selected as the operation of choice for prolapse of the uterus in 15 cases. Of these 15 cases, all recovered—there were no deaths. The average age of these patients was 47½, the youngest being 34 years and the oldest 69; there was but one case under 40, five cases over 50, and with but few exceptions, these patients had passed the menopause.

The chief complaint on the part of the patient in most instances was "falling of the womb"—had they but said prolapsus uteri, they would have had their complaints conform with the official nomenclature. Duration of symptoms from the descent of the uterus and the associated cystocele and rectocele varied from one to fifteen years. In 10 of the 15 cases the prolapse was complete, that is, partial or total protrusion of the uterus through the vulva; there was 1 case of second degree, and in the remaining 4 cases the extent of the prolapse was not noted on the charts. Six of these women had worn pessaries with little or no relief for variable periods of time.

The multiparous woman, of course, is more prone to prolapse of the uterus. The average number of pregnancies among these cases was five. There was only one case who had borne fewer than three children, and she had had but one—which she reports as having weighed 13½ pounds; she was badly lacerated at time of delivery, but not repaired. The highest multiparity was 11.

These 15 vaginal hysterectomies were performed by eight different operators. Whereas there were minor variations in the technique employed, in the main the uterus was removed in much the same manner by all, with a high fixation of the vagina to the stumps of the broad ligaments, careful closure of the vaginal vault, and repair of the complicating cystocele and rectocele with narrowing of the vaginal outlet.

The average length of time consumed by the operation was one hour.

Following operation, the majority of these patients ran a temperature around 100.5° F. to 101° F. for four to six days.

The relative absence of complications during post-operative convalescence is noteworthy. With but one exception, all these cases were free from complications. The single complication was that of a left thrombo-phlebitis occurring on the 12th day with sudden rise of temperature to 105° F., reaching normal nine days later. This patient was discharged from the hospital 32 days following operation. The average length of time in the hospital for the remaining cases was 18 2/3 days.

Undoubtedly the matter of greatest interest and importance in any reparative or reconstructive operation is the end-result. Whereas all these patients were discharged from the hospital as *cured*, the question arises, do they remain cured? These 15 cases which have been reviewed tonight have all been operated upon during the past two years (that is 1920 and 1921)—one or two no longer than six months ago—so that permanent cure could not yet be said to be definitely established.

Of the total number of 15 cases, we have been able to get more or less complete follow-up data on 12; on the remaining 3 cases we have no information subsequent to their discharge from the hospital.

> Five cases have returned to the follow-up clinics from one to four times, have been examined, and their conditions definitely determined.
>
> Two (private) cases have recently been examined by their respective operators.
>
> Five cases have reported by letter, or have been reported by their family doctors as being symptomatically well.

Of these 12 cases we can definitely say that they are, to date, 12 symptomatic cures. The dragging sensation in pelvis and low abdominal pain have disappeared; backache is no longer a prominent symptom; dysuria and nocturia have subsided; leuchorrhea has, for the most part, discontinued.

Of the 7 cases re-examined in the follow-up clinic or in the doctor's office, pelvic examinations show that the vaginal vault has remained fairly well fixed; the perineum has remained firm; the point of least resistance is the anterior vaginal wall. In none of these cases has any severe cystocele yet appeared, but in two of these patients there is reported a distinct relaxation, disclosing a slight cystocele on coughing or straining; both of these patients are free from subjective bladder symptoms.

MEDICAL BOOK NEWS

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All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

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Practical Infant Feeding

PRACTICAL INFANT FEEDING. By Lewis Webb Hill, M. D. Philadelphia and London, W. B. Saunders Company, 1922. 483 pages, illustrated. Cloth, $5.00 net.

It would seem that a new book on infant feeding, a field already covered by a large number of books on the subject, should present some unusual feature to justify its existence.

Dr. Hill says in his preface that he has tried to write a book which will be practical without being superficial, scientific without being tiresome. Whether he has succeeded in this attempt the reviewer will not decide.

He has certainly collected a mass of information and presented it in a practical form. It includes chapters on the physiology and pathology of digestion and nutrition, the chemistry of milk and its modifications, the composition of commercial infant foods, the management of breast-feeding and artificial feeding, and the management of digestive and nutritional disorders, of infancy and children.

In addition, there are chapters giving a description of rickets, spasmophilia, scurvy, eczema, and pyloric stenosis and spasm.

It will thus be seen that it is not merely a book on infant feeding, but includes certain diseases not usually regarded as the result of a defective diet.

It is not easy to explain why some of these diseases are treated of in a book on infant feeding. The author is a strong adovcate of boiled milk in infant feeding, and opposed to feeding raw milk. He says on page 175, "during hot, muggy weather even certified milk should not be used raw." This is not in accord with the views of most pediatrists.

The seventy-one rules issued by the American Association of Medical Milk Commissions for the production of certified milk, and which he publishes, should be sufficient to insure a safe milk for infants without boiling.

The book is, however, to be recommended as a reliable up-to-date guide in the subjects of which it treats. E. H. B.

Glands in Health and Disease

GLANDS IN HEALTH AND DISEASE. By Benjamin Harrow, Ph.D. New York, E. P. Dutton & Co., 1922. 218 pages. 12 mo. Cloth, $2.50.

This work has been written to explain in non-scientific terms the glands of internal secretion, their mode of action, and their interrelation. These descriptions are clear, concise, and state much of the history and action of these glands. As the book has been written to give information on this complicated subject to the laity, the author has gone extensively into the description and actions of the glands of special interest to this class of readers.

The author has presented the subject in a truthful, easily understood manner, and anyone interested in the actions of these glands of internal secretion will find much to simplify his understanding of them.

Henry M. Moses.

Diseases of Women

DISEASES OF WOMEN. By Ten Teachers, Under the Direction of Comyns Berkeley, M. A., M. D. Edited by Comyns Berkeley, H. Russell Andrews, J. S. Fairbairn. Second Edition. New York, Longmans, Green & Co., 1922. 641 pages, illustrated. 8vo. Cloth, $10.00.

If one will read the preface of this volume he will find that the book is designed with the idea of the students' needs.

In that respect this book maintains the average standard of such text-books, the essential clinical and pathological data being fairly well brought out.

In the reviewer's opinion not enough emphasis has been placed on the routine blood examination as an aid in differential diagnosis, nor has the value of the sphygmomanometer been given its proper place, as an aid in judging the opportune time for operation, in such cases as ectopic gestation.

Radium and X-ray do not receive the attention they should, in the light of accumulated gynecological statistics, and the use of transfusion receives scant notice. G. W. P.

The Habit of Health

THE HABIT OF HEALTH; HOW TO GAIN AND KEEP IT. By Oliver Huckel. New York, Thomas Y. Crowell Co., 1922. 128 pages. 12mo. Cloth, $1.00.

The author, a clergyman, states that his book is the outcome of a series of conferences held some twelve years ago between physicians and ministers, with the idea of co-operation between these two professions in the work of healing. It was felt, he says, that there was a common meeting ground where religion and medicine could accomplish more than by following separate paths. This may be so, but Mr. Huckel's book goes far afield in trying to prove it. Sermons there are in the book, as a glance at some of the chapter headings will show—"Faith As a Vital Force," "The Healing Value of Prayer," "The Inspiration of the Mental Outlook." It is one of those books which may be loosely classified under the general group of "Mental Healing" literature, which has little or nothing to do with applied psychology in relation to the cure of real or fancied bodily ills, and so is of small value to the physician. There is a certain class of the laity to whom this book may appeal in that it shows the trend of modern religious thought.

FREDERIC DAMRAU.

New Growths and Cancer

NEW GROWTHS AND CANCER. By Simeon Burt Wolbach, M.D. Cambridge, Harvard University Press, 1922. 53 pages, illustrated. 12mo. Cloth, $1.00 (Harvard Health Talks).

This little volume is one of a series of "Harvard Health Talks." It is full of suggestive facts anent a disease condition that has entailed untold suffering and claimed countless victims. Its perusal by the lay reader will prove worth while, even if only one dogma is firmly inculcated in his mind, viz.: "Heredity plays no part in the cancer problem."

The author, in non-technical language, presents a preliminary chapter on "Cells and Tissues." He then speaks of the causes and accepted theories of the origin of cancer, and briefly discusses treatment and statistics.

But one fault is to be found with the booklet—it is far too brief. The perusal of this volume certainly should arouse in the lay mind a desire for further information about cancer. For this reason the publication is justified.

W. W. HALA.

Psychoses With Endocrinoses

A PSYCHOANALYTIC STUDY OF PSYCHOSES WITH ENDOCRINOSES. By Dudley Ward Fay, Ph.D. New York and Washington, Nervous and Mental Disease Publishing Co., 1922. 122 pages. 8vo. (Nervous and Mental Disease Monograph Series No. 33.)

Twenty-two schizophrenic patients, all of them with endocrine disturbances, were psychoanalyzed at St. Elizabeth's Hospital. These case histories comprise the great bulk of the book. An attempt is made to correlate the psychogenic with the endocrine factors. Conclusions are drawn as to the value of treatment with dessicated thyroid and psychoanalysis. Thyroid gland appeared to favorably influence all cases for a brief period after its use. The author believes that a combination of thyroid stimulation and psychoanalysis might be an excellent method of attacking incipient schizophrenia. The literary style of this work is especially commendable. The author has the happy faculty of portraying his characters in a few terse sentences and exercises considerable dexterity in transcribing the obscene utterances of his patients into printable language, without losing the meaning.

FREDERIC DAMRAU.

Vitamins and the Choice of Food

VITAMINS AND THE CHOICE OF FOOD. By Violet G. Plimmer and R. H. A. Plimmer, D.Sc. London and New York, Longmans, Green & Co., 1922. 164 pages, illustrated. 8vo. Cloth, $2.50.

This English publication is particularly opportune at this time for comparison of the researches and views of English investigators with those of their American fellow workers in nutrition. After an introduction on Food Constituents and Metabolism, the deficiency diseases are at once taken up, beginning with Beriberi, which is said to have been known since 2697 B. C. Then scurvy is discussed and the discovery of the vitamins with their distribution, chemistry and physical properties. Chapters follow on Rickets, Pellagra and Errors in Selection of Food, and an Appendix gives the distribution of vitamins in foods. The text is well written and fits in well with the latest American publications on vitamins.

W. H. DONNELLY.

Vital Factors of Foods—Vitamins and Nutrition

VITAL FACTORS OF FOODS, VITAMINS AND NUTRITION. By Carleton Ellis, S.B., F.C.S., and Annie Louise MacLeod, Ph.D. New York, D. Van Nostrand Company, 1922. 391 pages, illustrated. 8vo. Cloth, $5.00.

One rarely finds, in the flow of publications on the fascinating and comparatively recent subject of vitamins, such a complete and accurate and exhaustive review of the literature as is contained in this volume.

Every phase and angle of the subject is covered, including elementary principles of nutrition, what vitamins are, and what they do, the experimental methods used, the distribution of the vitamins, their stability, and their rôle in nutrition.

There are chapters on Rickets, Scurvy, Beriberi, Xerophthalmia, and Pellagra; on vitamins for the baby, what to eat from the vitamin standpoint, and the use of the vitamins in clinical medicine. There is also an appendix with tables of the distribution of vitamins.

Authoritative publications based upon thorough study of the literature and on scientific animal experimentation are extremely valuable at the present time, when the subject is just being put on a stable foundation.

Therefore, we must welcome this book of Ellis and Macleod as a real contribution to a rapidly growing fund of reliable information on a vitally important subject.

W. H. DONNELLY.

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Heart Failure

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Brooklyn, New York

THE brilliancy of modern surgery, together with its apparently rapid results has somewhat dimmed the less rapid but no less brilliant results of the care of crippled organs which are not amenable to surgical treatment. The heart is uniquely an organ of this character. Except in accidents of external violence to this organ, surgical intervention is not considered in caring for a crippled heart. Results of medical advice and care are seen quickly only in the most severe cases; and one of the difficult tasks of a medical adviser is to convince a patient who has but slight cardiac involvement that his wisest course is to conserve his cardiac energy. As you know, the heart will respond temporarily after many insults, and apparently recover its former integrity; because of this, patients become careless of advice until threatened catastrophe compels attention to the condition. Early signs of trouble should always be kept in mind by the physician. Remember, that when a patient seeks advice for a heart condition, early symptoms have been present for some time, and the consultation is obtained only because these symptoms have become troublesome.

Because the principles underlying the production of heart failure are simple and not complicated, we do not give the study of these conditions sufficient attention. The purpose of the circulation is twofold: first, to supply a constant stream of material capable of nourishing the tissues, and second, to remove such waste products as are capable of entering the circulatory channels. The heart muscle supplies the force which maintains the circulation, while the various parts of the mechanism are adjusted so that all parts combine to facilitate the work of the heart, and to attain the object of the circulation. Any disturbance of that adjustment interferes with this mechanism and throws more work upon the heart muscle. So long as the heart

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Read at the regular meeting of the Brooklyn Medical Association, January 11, 1922.

can overcome the impediment and maintain the circulation in a normal manner, there will be no symptoms, but if the heart muscle is embarrassed and is no longer able to carry on the circulation efficiently, then certain phenomena occur which we call symptoms of heart failure.

As the heart possesses the power not only of maintaining an efficient circulation when the body is at rest, but of varying its activity according to the bodily requirements, the force inherent in the heart muscle may be considered to be composed of two parts: first, that which is employed to maintain an efficient circulation when the body is at rest, and which may be called the "rest force"; and second, that which is called into action when effort is made, and which may be termed the "reserve force." The rest force is the minimal force which the heart has to exert to maintain the circulation at a level consistent with life. The impairment of this rest force produces those evidences of heart failure, such as dyspnea and dropsy, which persist when the body is at rest. The continuance of such impairment eventually leads to a fatal issue. As the reserve force is called upon when effort is made, heart failure is shown first in a limitation of the reserve force. An individual becomes conscious of this limitation by finding that some form of exertion, which he was accustomed to perform with ease, now causes distress. Heart failure invariably starts by exhaustion of the reserve force, causing a few symptoms at first but gradually giving enough distress to compel attention; later we find the rest force being encroached upon. Heart failure is not a disease; it is the result of the inability of the heart muscle to respond to continued or repeated over-exertion, or to maintain an efficient circulation. It never occurs without previous warning, except in accidents of external violence. Diseases of other parts of the heart than the myocardium produce heart failure by embarrassment of the heart muscle. Heart failure may be classified as "more advanced" and "less advanced," depending upon the effect on other organs. According to its etiology and duration, it may be classified as acute and chronic.

Acute conditions of heart failure are due, first, to toxins, produced in diseases such as diphtheria, pneumonia, hyperthyroidism, tuberculosis or typhoid fever, and second, to infectious growths accompanying or following streptococcus infections. The treatment of these acute conditions differs much from that of conditions of long standing.

Chronic conditions of heart failure are caused chiefly by

(1) Old growths on the valves.
(2) Relative insufficiency of valves due to enlargement of the openings.
(3) Malnutrition due to arteriosclerosis; anemias, chronic toxemias as syphilis.

The term heart "fatigue" is used sometimes in early cases of heart failure — one condition is merely an earlier phase of the other. The symptoms of heart failure are due to impaired circulation in the different organs. The early symptoms begin gradually and are not unlike the changes which take place because of age, except that the progress is more rapid in the affected heart. Limitation of our field of effort is noticed, breathlessness, rapid, hard heart action, chest pain through the left side, or a feeling of constriction through the chest, in fact the signs which are present when we over-exert and still have a reserve force. In the crippled heart these signs continue, unless we rest the heart, and are followed by an increase in severity of the given symptoms together with cyanosis, pallor, exhaustion, and possibly fainting. Although these are symptoms of heart failure, the average patient is hard to convince that attention should be paid to what he is advised to do. The heart itself seems to respond to rest and the patient usually allows his heart to become exhausted again before consulting his physician.

The object of treatment is to restore the reserve force of the heart muscle and to make the best of that power which the heart still possesses. Rest is the treatment. Mackenzie writes, "it may seem unnecessary to dwell upon such a well-recognized agent in cardiac treatment as rest, were it not for the fact that its effects are seldom fully appreciated. In a great many systems of treatment, rest is only one of the factors employed and the resulting benefit is rarely attributed to the rest, but to some other agent that has been employed at the same time. If the value of simple rest of body and mind were sufficiently appreciated, we would hear less of cures by special methods." Rest is obtained by different men in different ways. If the patient's financial condition is such that he does not have to worry about it, the chances for recovery are better; also if the patient's mental condition is such that he does not worry about anything, his chances are better. We try to lessen the physical effort by keeping the patient in bed, by lessening his voluntary efforts, and by furnishing food which will nourish the patient with the least amount of effort by the digestive system.

Our best results are obtained in the treatment of early cases of heart failure. Treatment is advisory rather than medicinal, and a person may have many years of health and comfort if the advice is followed. A man with a cardiac defect is handicapped in the race, and if the handicap is too heavy, his endeavor to keep his place is made at the expense of his heart's strength. The inevitable result is exhaustion of the reserve force, which advances slowly but surely. We must learn how much each individual may do safely and permit him to do as much as his reserve force will allow him without inducing exhaustion. Advise the patient to avoid certain harmful influences in his work, or mode of life; to take certain measures which may diminish the progressive exhaustion of his reserve force and enable him to live comfortably.

It may be that only a partial restoration of the heart function can be looked for, and when we recognize that the fullest amount of recovery has been gained, advice to the patient concerning his future mode of living will be useful. In heart lesions that are not progressive, the best line of advice is that the patient should follow his trade or profession, so long as it does not involve over-exhaustion of the reserve force, and indulge in such exercise as he can in comfort, avoiding all forms of effort that induce distress. When effort that may involve strain has to be undertaken, a period of rest should follow sufficient to permit full recuperation. By following this course, the heart itself will benefit by the judicious exercise of its functions, and the patient will be freed from the restrictions of an invalid life. If the heart failure still persists, periods of rest must be increased and remedies that may help the heart, administered. These patients present changes in the rate and rhythm of the heart sounds. There is an increase in the size of the heart, and embarrassment of the various organs, due to greatly impaired circulation. Signs are present of hepatic and pulmonary congestion; dyspnea is marked, even without exertion; there is severe cough from the pulmonary condition; indigestion, "so called," with gas formation, is complained of. Cardiac pain is frequently spoken of as pressure of gas from the stomach. There may be edema, fluid in the serous cavities, and anasarca. These are the extreme cases — the ones in which we do our most spectacular work, if the heart muscle is able to respond to our care and attention. In addition to rest, we sometimes have to stimulate in order to carry us over an emergency. There is usually diminished function in the other organs of the body, elimination has been incomplete, and treatment must include care of these conditions.

In reviewing the histories of a large number of cardiac patients, such as those admitted to the Kings County Hospital, one is compelled to note the similarity in the symptoms complained of, notwithstanding the different causes of the trouble. Many of these patients have been in the hospital several times, have been temporarily improved, gone home, have again used up their cardiac force, and returned to the hospital. This process is repeated until the heart muscle can no longer respond to care and the patient dies.

Abstracts of the histories of a few severe cases may best illustrate the conditions found and the treatment of these patients.

A boy 16 years of age was admitted to the Kings County Hospital complaining of pain in both feet. He gave a history of three previous attacks of rheumatism, the first attack at seven years of age. The last attack occurred three months before this admission with pains through the arms and legs. The patient never really recovered from this attack. The tonsils had been removed when he was 8 years of age, and he has had no subsequent attacks of sore throat. Examination of the patient shows (among other things) a thin cyanotic youth, with several carious teeth present. The lungs are normal. Heart examination shows apex beat in 5th interspace 1 inch outside of mid-clavicular line. Rate 108 regular, fair quality; moderately loud systolic murmur at apex transmitted to axilla. A double murmur, systolic and diastolic, is heard at base over aortic area, transmitted into neck. A faint to-and-fro friction sound is heard with the heart beat over left side at junction of 3rd and 4th ribs with sternum. Corrigan pulse is present and pistol shot is heard over the large arteries. Liver and spleen are not enlarged. There is no edema of extremities.

Patient's temperature varied between 101° and 98 3/5 for a few days. Blood culture was sterile. Urine negative.

He was given	ice bag over precordium gr. x Sodium salicylate gr. xx Sodium Bicarb	q 4 h until temperature was normal and pain had disappeared.

On the 12th day, as the acute symptoms had subsided and the pulse rate 104-108, he was given Tinct. digitalis m xv q 4 h for 4 days.

Patient was in hospital 37 days, a comparatively brief stay in the hospital — but was going away for a rest in the country. His heart findings on discharge showed the left border near the mid-clavicular line with the murmurs and friction rub present. This was a case of acute rheumatic infection, pericarditis, and a chronically crippled heart.

Another patient, 23 years old, was admitted to the hospital complaining of pain in the precordium. He had frequent attacks of tonsillitis as a child, had the tonsils removed, and has had several attacks of a sore throat since then. He also reported several attacks of rheumatism. At present he has frequent sensations of choking in throat, dyspnea, precordial pain, weakness, and, at times, swelling of feet and legs. This cardiac condition dates back 5 years, following an attack of rheumatism. During this time patient has been in a hospital several times. Between attacks patient has been able to do some light work.

Examination of heart shows precordial heaving with diffuse pulsation at the 5th interspace, 2 inches outside of mid-clavicular line. Heart is but slightly enlarged to the right. There is a well marked thrill over the aortic area, and one less marked at the apex. Rate 106, regular, fair quality. There are present double murmurs at the apex and double murmurs at the base. Corrigan pulse and the pistol shot are present. There is clubbing of the fingers. There is no edema of the extremities. The patient's temperature on admission was 101°.

B. p. $\frac{180\ S}{0\ D}$; urine 1010 neg. alb.; neg. sugar; neg. microscopic, Blood culture sterile. Blood Wassermann neg.; G. C. neg.

Blood Chemistry	32 mg. urea 1.5 mg. creatinin 42 mg. non-prot. nitr.	(per 100 c.c. of blood)

Phthalein 42%; 22%; 27%.

On admission patient's condition was such that morph. sulph. gr. 1/6 was given by hypo.

Strophanthin gr. 1/250 Morph. Sulph. gr. 1/12	q 4 h by hypo. for 8 doses.

After three days in hospital condition indicated the following medication:

Sodii Salicylate gr. xx Sodii Bicarb " xx	q 4 h

This was continued 2 weeks. On the fifth day, tr. digitalis, m xx q 6 h was given. On discharge: patient showed improvement in symptoms, pulse was slower and of better quality. The heart murmurs were still present. He was in the hospital 37 days.

A man 50 years of age was admitted to the hospital complaining of palpitation of the heart, dyspnea, precordial pain, edema of legs.

Patient claims to have been sick for past three months, during which time he has been unable to lie down in bed. For the past two weeks edema of the legs has appeared.

Examination of heart showed a diffuse apex beat with the maximum impulse in 5th intercostal space, 1½ inches outside of the mid-clavicular line. There is a systolic and a diastolic murmur at apex. Double murmurs are heard over the aortic and pulmonic areas. There is pulsation in the neck; Corrigan pulse and pistol shot are heard over large arteries. Rate 98, irregular, of poor quality. B. P. $\frac{170\text{ S}}{0\text{ D}}$ urine negative; P. S. P. 20%; 22%; 17%. Blood Wassermann four-plus on two examinations. Spinal fluid Wassermann neg.; sputum neg. for T. B.; colloidal gold neg.

Blood Chemistry (per 100 c.c. of blood)	45 mg. blood urea 2.2 mg. creatinin 55 mg. non-prot. nitr.

Three weeks later:

Blood Chemistry (per 100 c.c. of blood)	37 mg. blood urea 2.2 mg. creatinin 48 mg. non-prot. nitr.

Medication:

Morph. Sulph. gr. ¼ hypo. stat.
Tr. digitalis dr. 2 q 6 h for 4 doses.
Karrell diet.
Measure intake and output of fluids.
Occasional, morph. sulph. gr. 1/6.

Mercury Salicylate gr. 1 q 4 days intramuscularly, Kali Iodidi gr. x tid — increasing dose. Additional digitalis was not given until the 14th day, when the heart showed instability enough to indicate it. Patient was in hospital 32 days, and his symptoms had cleared up enough for him to demand his release.

Another patient, a man of 56 years of age, complains of dyspnea and pain under left shoulder blade. Claims to have been sick for the past six months with kidney trouble; was in a hospital until one month ago. Pain in chest has been present for 5 days.

Physical examination shows an obese, markedly dyspneic male. Lungs show many fine moist rales at both bases. Loud musical rales are also heard throughout chest.

Heart: apex beat in 5th interspace just outside the mid-clavicular line. Cardiac dullness 1 inch to left of mid-clavicular line. Aortic dullness increased in width. Rate 90, irregular and of poor muscular quality. No murmurs heard. Liver extends 5 fingers breadth below costal margin and is tender to pressure. Spleen not enlarged. No fluid in peritoneal cavity. Extremities edematous.

B. P. on admission $\frac{200\text{ S}}{130\text{ D}}$ and a venesection was performed, withdrawing 700 c.c. of blood.

Medication:

Mag. Sulph. q. a. m.
Karrell diet.
Diuretin gr. x q 4 h
Morph. Sulph. gr. ¼
Hot pack. (28 days in hospital)

The following day, tr. digitalis m xxx q 4 h was ordered for 4 days, then digalen m. xv B.i.d.; Morph. Sulph. gr. 1/6 was given if necessary as a relief for restlessness and for the heart. Patient began to improve in symptoms markedly on the 6th day. Nitroglycerine gr. 1/100 was started on the 8th day.

On the 8th day notes show that the patient was much improved. There was a faint systolic murmur heard at the apex. The liver was diminished in size, and there was no edema of the extremities. M. P. 200/130; 178/112; 195/120; on discharge 165/90.

X-rays showed aneurysm of aorta. Urine normal; later, low sp. gr. 1010.; P. S. P. 28%; 39%; 20%; equalling 87%; 35 mg. urea per 100 c.c. blood. Blood Wassermann neg.; g. c. neg.

This is an example of Angina Pectoris with chr. myocarditis.

A man 62 years of age was admitted to hospital complaining of pain in left side of chest with the pain running down the inside of the left arm down to the hand: Dyspnea is present. The patient gives no history of illness until the present, which began 17 months ago. This pain now is more severe at times, although it is present at all times. Patient states that he is unable to exert himself without agonizing pain and marked dyspnea. He is afraid to eat for fear of having the choking sensation as if his heart were being squeezed in a vise. Examination shows a man with advanced arterio-sclerosis, very much disturbed by his own condition. His heart shows an apex beat ½ inch outside of mid-clavicular line in the 5th interspace. No murmurs are heard. Rate 64-66. Temperature and respiration normal. Sounds regular, of poor quality.

Urine 1009, otherwise negative. B. P. 150/100, 160/95. P. S. P. 10%; 20%; 35%; equalling 65%.
Wassermann blood neg.

Medication:

Morph. Sulph. gr. ¼ as necessary.
Sodii Nitrate gr. ṫ T.i.d. for 1 week, then
Nitroglycerine gr. 1/100 T.i.d. until discharge.
Codeine Sulph. gr. ½ was sometimes used.

These symptoms were improved enough to demand his release and leave the hospital in 27 days.

To sum the general treatment, rest of the myocardium is the first essential. Except in the acute infections, in the toxemias, and in arterio-sclerosis, the administration of the digitalis group of drugs is indicated. This group is useful when the heart rate is increased and exhaustion is due to this cause.

In the acute toxemias and infections, digitalis does no good. Codeine or Morphine Sulphate, together with elimination of the toxins or lessening the virulence of the infection, are the indications. Caffeine sodium benzoate and camphor are frequently used in these conditions as stimulants. The ice bag over the precordium sometimes eases the discomfort of the patient. After the acuteness of the condition has passed, these patients must be kept at rest for a long period of time with a gradual increase of effort when the heart muscle improves.

As already stated the treatment of the earlier cardiac failure is advisory rather than medicinal.

Digitalis does not give as good results in cases of arterio-sclerosis as in younger hearts; in these cases we have to depend upon improving the general nutrition of the patients. These are the cases which improve with the judicious use of alcohol, together with easily digested, nutritious foods furnished in small quantities frequently.

The administration of large doses of digitalis within 24 or 36 hours is one of the methods being used at present. Wyckoff of Bellevue states that in order to digitalize a heart, 2 minims of an active tincture per pound of body weight is necessary, and he uses these amounts. This may be given in 1 dram doses every 6 hours until the necessary amount has been given, then continuing twenty minims daily, as this is the amount eliminated every 24 hours. Pardee of Cornell gives 1 minim per pound of body weight, and 20 minims daily thereafter. At the Kings County Hospital we have been following Wyckoff's method in many cases with good results. At the beginning of treatment of the severe cases we always use Morphine Sulphate in doses sufficient to get results, sometimes ¼ gr., sometimes ⅙ gr. Then we give 1 12 or 1/16 gr. M. S. with each dose until the heart is steadied, always giving the dose as needed by the condition.

We do not try to digitalize some patients so rapidly and consequently get results more slowly. The best results are obtained in cases with edema and fibrillation. The infusion or the leaves may be used, and the results obtained are determined not only by the drug but also by the physician who is using his own preference, because of attention to details in treatment.

Digitalis does not always give the best results; sometimes some form of strophanthus seems to act with greater success. Dr. Cornwall uses strophanthus or strophanthin almost exclusively in his cases of cardiac patients.

The real secret of obtaining results lies in the careful observation of the effect of medication upon the individual patient.

A Review of 3,500 Roetgen Examinations of the Alimentary Tract*

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THIS analysis of the roentgen study of the alimentary tract comprises 3,520 cases, most of which were examined at Bellevue Hospital, the remainder in private. The tabulations are made only according to radiographic findings of this tract — cases presenting multiple lesions are classified under that which was considered most important from a symptomatic viewpoint. Pathological processes of the Respiratory, Cardio-Vascular and other systems discovered during routine gastro-intestinal study are not included, as separate reports describing such lesions in detail were made after the necessary examination.

Positive findings were reported in 1,368 cases or 38.6% of those examined.

Oesophagus — By far the most common abnormality of the oesophagus was carcinoma, it being present in fifty patients, of whom all but three were males, a proportion of 17 males to 1 female. The most frequently affected site was the lower half, lesions of the upper third occurred but rarely. These neoplasms were often very extensive, involving the lower portion of the oesophagus and cardia of the stomach; the relatively short duration of symptoms with such involvement was noteworthy; occasionally a small unsuspected growth of its epicardial portion was detected. Marked dilatation of the oesophagus was usually associated with cardio-spasm. In one instance its width was 10 cm. (teleo plate measurements). In three of the most severe cases a history of protracted pleural disease preceded the dysphagia — in but one case was an associated organic lesion of the gastro-intestinal tract revealed — this a carcinoma of the pylorus. The diverticula met were of moderately small size and principally of the pulsion type. Foreign bodies of all descriptions were located in the oesophagus, most often in the region of the introitus.

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*Read before the Medical Society of the County of Kings, Feb. 21, 1922.

Stomach — Lesser curvature and posterior wall ulcers of the Pars Media constitute 71% of the gastric ulcers noted; none were found on the anterior wall. Gastric ulcer accompanying those of the first portion of the duodenum was observed in four patients. Concerning pyloric obstruction, the most complete was caused by the callous ulcer of this area, one patient having carried a gastric retention for eleven days, at which time the observations were concluded. The insidious onset of infiltrative carcinoma of the stomach, as elsewhere, causes the patient so suffering to appear late in the disease, consequently many were so extensive as to be inoperable. Regarding the site, the Pars Pylorica was most often affected; the medullary or fungous variety predominated. Gastric cancer was present in 174 cases, constituting 5% of the entire series.

Duodenum — One of the most common lesions was duodenal ulcer, this diagnosis having been recorded in 170 cases; all of these were found in the first portion of bulb; the larger number were of the non-obstructing variety. The recognition of duodenal ulcer usually offers no difficulty, yet in one case the diagnosis was not made roentgenologically, because the bulb, as rarely happens, presented no characteristic defect. Spasm of the first portion of the duodenum due to extrinsic causes and deformity from periduodenal adhesions are sometimes confusing and a positive diagnosis should not be offered on inconclusive evidence. In two cases, previously operated for ruptured gastric ulcer, a duodenal ulcer was found but no evidence of the operative procedure could be demonstrated. Abnormalities of the jejunum and ileum, other than those due to surgical interference, were most infrequent.

Colon — Pathological processes of the colon were principally colitis, carcinoma, and diverticula; the first represents thirty-seven cases of which 23 were of tuberculous origin. New growth, usually of the napkin-ring variety, was present in 26 patients, excluding those considered under acute obstruction of the colon.

Appendix — Concerning the appendix much may be said; suffice it to mention that only when unquestionable tenderness can be elicited is a definite diagnosis of appendicitis rendered; fixation, irregular filling suggesting the presence of enteroliths or constriction of its lumen, abnormal position, and retention after the colon has been completely emptied, naturally or by catharsis, indicates a potentially pathological appendix. The mere visualization of this organ is no criterion of its pathogenicity; on the other hand, failure to fill after suitable procedure suggests the possibility of an atrophic or obliterating type of chronic appendix. One hundred and seventy-four cases presented evidence of a pathological appendix.

Adhesions were not reported unless they caused definite interference with mobility, contour or function of an organ, consequently the surgeon's notes were occasionally at variance with the roentgen findings in this respect.

Regarding congenital anomalies, three cases of situs inversus and one of dextrocardia were noted. The colon was incompletely migrated in five cases, the position of the caecum being variable, it being either in the upper right quadrant along the inferior surface of the liver, or with the ascending colon, directly in mid-line of the abdomen. One case each of congenital atresia of the oesophagus, atresia of the ileum, hernia of the diaphragm right dome and one of the left dome are also included in this series.

Method of Examination — Our preference has been the double meal method suggested by Haudek. the patient having had a motility meal six hours prior to the first examination.

The second observation is made at the twenty-four hour period and when indicated the patient is seen daily until the mixture has been completely evacuated. For examination of the colon, the opaque clysma was used.

Most of our information in the roentgen study of the alimentary tract is obtained by fluoroscopy; radiographs are made for record and as indicated for detail study. In this connection, it has been found of decided advantage, in chosen cases, to make these plates directly during fluoroscopy, particularly if manipulation is necessary to demonstrate a questionable deformity or fixation to deliver into view such structure as a retrocaecal appendix. In indeterminate cases, repeated examinations were freely resorted to, either by the routine or special method, and frequently after an antispasmodic had been administered.

An endeavor has been made to trace these cases until the diagnosis had been conclusively established, this most frequently at operation or occasionally at autopsy, but such a large number were referred from the out-patient department that a satisfactory "follow-up" was impossible. Since this was instituted, the diagnosis was proven by operation or otherwise in 144 cases in which a definite roentgen diagnosis had been offered. In 21 of these operated for various conditions, the surgeon made an operative diagnosis of disease of the gall bladder or appendix; the roentgen report of most of these made no special reference to those organs, but accurately excluded the remainder of the alimentary tract as a source of pathology. One carcinoma of the transverse colon and one of the rectum were not recognized during routine gastro-intestinal study; an examination of the colon by opaque enema was not made in either instance. Of the remaining 117 cases, six errors occurred, as follows:

Cases 1 and 2 — A negative diagnosis was offered in one case of duodenal ulcer and one of carcinoma of the cardia, each of which was distinctive and should have been detected by careful study.

Case 3 — A negative diagnosis rendered; at operation a small ulceration of the first portion of the duodenum was found; this presented no characteristic defect roentgenologically and a like mistake would probably occur again under similar circumstances.

Case 5 — Roentgen diagnosis: Pyloric obstruction, probably due to ulcer of this region; a rather unusual case in which a large residue remained in a markedly atonic stomach for sixteen days; at operation no lesion was found to satisfactorily explain such atony and retention.

Case 4 — Roentgen diagnosis: Ulcer of duodenum; laparotomy revealed a carcinoma of the gall bladder fixed to the first portion of the duodenum, producing the defective contour as demonstrated.

Case 6 — Roentgen diagnosis: No ulcer or new growth of stomach or duodenum; an old scarred ulcer on the anterior surface of the Pars Pylorus was revealed at operation, but during examination no defect of this region was noted.

Number of Cases examined	3520	
Positive Reports	1368	38.65%
Negative Reports	2152	61.35%

OESOPHAGUS			81	2.3%
Carcinoma	50	58 %		
Cardiospasm	8	10 %		
Diverticula	7	8.6%		
Foreign body	7	8.6%		
Dilatation	3	3.6%		
Ulceration (benign)	2	2.4%		
Stenosis (prob. carcinoma)	2	2.4%		
Benign Stenosis	1	1.2%		
Paralysis Pharynx	1	1.2%		
ORGANIC DISEASE OF STOMACH ULCER			101	2.9%
Partes Media and Cardia	71	71 %		
Pars Pylorica	29	29 %		
Unclassified	1			
ASSOCIATED GASTRIC AND DUODENAL ULCERS			4	
GASTRITIS			8	
CARCINOMA			174	5 %
Pars Pylorica	85	49 %		
" " and Media	25	14.5%		
" Media and Cardia	32	18.5%		
" Cardia and Oesophagus	18	10 %		
Unclassified	2	1 %		
Probable carcinoma	12	7 %		
PYLORIC OBSTRUCTION			10	
POST-OPERATIVE CONDITIONS OF STOMACH			79	2.3%
Gastro-enterostomy, functioning	65			
" " not functioning	5			
Partial gastrectomy	6			
Gastro-jejunal ulcer	3			
POST-OPERATIVE CONDITIONS OF COLON			12	

ORGANIC DISEASE OF DUODENUM		183	5.2%
Ulcer	170		
Diverticula	5		
Obstruction	8		
DISEASE OF APPENDIX		174	5 %
ADHESIONS		89	2.5%
Perigastric	5		
Periduodenal	52		
Pericaecal	22		
Pericolonic	10		
ORGANIC DISEASE OF COLON		105	2.9%
New growth	26		
Obstruction	19		
Colitis	14		
Ulceration of	11		
Tuberculosis	23		
Diverticula	11		
Stricture-Rectum	1		
FUNCTIONAL DISTURBANCES		100	2.8%
Ascribed to:			
Pylorospasm	17		
Colonic stasis	18		
Ileo-caecal incompetence	42		
Spasticity of colon	12		
Dilatation of colon	11		
CONGENITAL ANOMALIES		16	.4%
Incomplete migration of caecum	5		
Megacolon	1		
Megasigmoid	2		
Situs Inversus	3		
Atresia of oesophagus	1		
" " ileum	1		
Diaphragmatic Hernia	2		
Dextrocardia	1		
DISEASE OF LIVER		28	.8%
Enlargement	21		
New growth	7		
DISEASE OF GALL-BLADDER		109	3 %
Pathological conditions diagnosed at			
Routine gastro-intestin. examination	88		
" " " calculi	4		
" " " enlargement	18		
EXTRA GASTRIC CONDITIONS		71	2.2%
Extra colonic mass	39		
" gastric mass	5		
Mechanical displacement by tumor ascites	10		
Eventration	6		
Subphrenic abscess	2		
Enlarged spleen	4		
Unclassified	5		
MISCELLANEOUS		24	.7%
Adhesive peritonitis	1		
Foreign body	5		
Einhorn tube	6		
Tumor of omentum	1		
Visceroptosis atonia	8		
Hernia	2		
Fistula to ileum	1		

Raw Milk In Nutrition.

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TO MOST of us here, the consideration of milk, during our medical college days, represented for the most part a hackneyed recital of the varying good and evil qualities of protein, carbohydrate and fat in the artificial feeding of babies — for the most part ad nauseam and ad infinitum. Those of us whose practise or choice of a specialty has led them away from the care of infants, have heaved a sigh of relief at our escape from what we had been taught to believe was essential to the bringing up of babies. The various percentages in the composition of milk that we struggled over were a veritable nightmare to most of us. The chemical laboratory was the court of last resort, in this line of work — and the intestinal canal of the long-suffering infant, the field of its application.

There is another aspect of milk, however, appearing with far greater frequency in the literature of today — less formidable, perhaps, because less hopelessly confusing — but of far wider scope, embracing as it does the whole span of human life. This is the literature that deals with the discovery of the new food principles, the vitamines. This puts forward the postulate that milk is a "protective" food — that a diet devoid of milk is never an optimum diet, for man at any age of his life, even though it may support life for a long time. This literature derives its authority, not from the chemical laboratory, but from the most elaborate series of experiments upon living animals — whether these animals be rats, guinea-pigs, cows, or human beings. In addition to our old friends protein, carbohydrate, fat, mineral salts, and water, it concerns itself with the new and hitherto unrecognized elements, known variously as vitamins, growth determinants, growth substances, food hormones, or accessory food substances, whichever name one prefers to call them by.

To run over the history of the experimental work leading up to our present knewledge will take us back but a quarter of a century. In 1897 the Dutch experimenter, Eijkman, by feeding pigeons a ration consisting solely of polished rice, had produced a condition that he called polyneuritis, that corresponds very closely to what in man has long been known as beri-beri. In 1906, Hopkins, of Cambridge, England, had concluded that some substances (which he called "accessory food factors") were necessary to the successful growth of animals, in addition to the well-known proteid, carbohydrate, fat, salts and water. In 1907, Fraser and Stanton discovered that the alcoholic extract of rice polishings added to the diet would cure beri-beri. In 1911, Casimir Funk, working first in Germany and later in England, actually demonstrated a substance, crystalline in form, obtained both from these rice polishings and from brewer's yeast, which would cure beri-beri. This he named "vitamine" — and thus just anticipated the publication by a Japanese, Suzuki, of his results, which appeared later in the same year, as a result of quite independently conducted experiments along similar lines. This is the nearest we have come so far to isolating a "vitamine."

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*Read before the Society of the Ex-Internes of the (Brooklyn) Methodist Episcopal Hospital, March 23, 1922.

In 1909 to 1910, it had been found by Osborne and Mendel, in Connecticut, that certain diets, eminently "balanced" and proper and sufficient from every scientific standpoint known up to then, failed, when fed to animals or human beings, to produce satisfactory growth, to maintain optimum well-being, and to produce healthy and viable offspring. The addition of quantities of milk far too small to add any appreciable caloric value to the ration at once rendered it perfectly satisfactory. The work of the German, Stepp, 1909-1912, had shown that alcohol and ether extracted from bread-and-milk diets an indispensable growth-producing substance, not a fat, but removed by the extraction of the milk fat. In 1912 McCollum showed that such a substance was contained in butter fat, but not in either lard, or any of the vegetable oils. It was, however, contained in egg yolk fats. This he called "fat-soluble A," objecting, for reasons purely etymological, to Funk's "vitamine." Funk's antineuritic vitamine he preferred to call "water-soluble B." His attitude toward the question of the possibility of the existence of a third, or antiscorbutic, vitamine (the new "water-soluble C") need not concern us here.

Out of all this mass of fact, fancy, theory, and hypothesis, McCollum, in his fascinating little book, "The Newer Knowledge of Nutrition," has epitomized for us the salient points that have been the result of these thousands of carefully controlled animal experiments. (To begin with, he assures us that all the evidence points to the fact that from the *chemical* and *biological* standpoints, the dietary requirements of one species of animal are the same as those of any other. The *physical* standpoint is a different matter — as, for instance, the roughage required by the ruminants.) He shows the inadequacy of seeds, roots, tubers, meats, etc. (of all "storage" foods, in short) for the support of the optimum growth and wellbeing, except when reinforced by the absolutely indispensable "protective" foods, as he calls them. First among these he places milk and its products — with egg yolk, leafy vegetables, and glandular organs away behind these in value. If, as no one now seems to doubt, it is absolutely essential for promoting growth and maintaining health, that a diet, to be satisfactory, must contain *all* the vitamines — the growth-promoting "fat-soluble A," the anti-neuritic "water-soluble B," and the anti-scorbutic "water-soluble C," — then fresh cow's milk must take first place in the dietary — for it is without doubt our most important foodstuff. Its proteins are of a quality far superior to those of any of the vegetable foods; its inorganic content (except for its deficiency of iron, which is easily taken care of) peculiarly favorable; and it contains a high content of fat-soluble A, an abundance of water-soluble B, and a very satisfactory amount of the latest member of the family, the anti-scorbutic water-soluble C. It is the only animal food completely supplementing the dietary deficiencies of the seeds; for, while in common with most other natural foods it contains all the essential food elements, they are present in so much better proportions in milk that it corrects the deficiencies of the other articles of the diet.

If we try to conceive of this subject as implying, not the occurrence of these obscure and relatively rare deficiency diseases, but the question of the promotion of growth in ordinary, normal human beings, then its applicability to us all will come sharply home to us as physicians.

There is then no conceivable substitute for milk — except as we conceive of taking sufficient amounts of the leafy vegetables, eggs, and the glandular organs of animals, which, from the bulk of the first named, would be manifestly impossible for the alimentary tract of the omnivora, even if the ruminants *are* able to compass this gastronomic feat. There is then no substitute for milk — for McCollum makes the statement, as one amply bolstered up by all the evidence, that milk is able to remedy the deficiences of *any* diet, when used in its fresh state as a supplement. It is as necessary in the diet of adults as in that of the young, although perhaps not so startlingly evident; for any diet that will not support normal development in the young, will not ensure optimum wellbeing in the adult. He boldly takes the economic bull by the horns, and flat-footedly makes the statement that the price of milk must be allowed to go up as long as the cost of production makes it necessary, and as far as is necessary in order to make milk production a paying industry — if we are not to be forced to do without the most important single article in our dietary. He feels that it is folly to compare the cost of this food with that of other foods — for there is no comparison possible between essentials and non-essentials.

McCollum goes so far as to divide the human race into two classes, according to the source of their "protective" foods. (a) The first, composed of the Asiatics and the dwellers in the tropics, have used the leafy vegetables, eking out their supply by the use of eggs and the small amounts of vitamines present in the other foodstuffs (seeds, tubers, etc.) These races are characterized by smaller stature, shorter life, higher infant mortality, and contentment with simple life and archaic social systems. (b) The second, made up of Europeans and North Americans, who have used milk and its products freely and leafy vegetables to but a lesser degree, show all the opposite characteristics, and have made advances along all the lines of human welfare and development, to degrees unknown by their exclusively vegetarian brethren.

It is not necessary here to go into the status of the present-day knowledge of scurvy, as it is being fought over by many workers — chief among them, in their widely differing views, being McCollum, Hess, and Mellanby of England. Whether scurvy is a true "deficiency disease," caused by the lack of a specific antiscorbutic vitamine ("water-soluble C" as some claim) is not wholly decided; but it is definitely conceded that it is caused by the lack of a definite something in the dietary, and it can be cured by the addition of certain definite articles — among them fresh milk. Hess's work along this line has opened some fascinating vistas; some of them, however, so far confusing rather than clarifying the situation. For instance, he found that milk pasteurized for ½ hour at 165 degrees was more apt to cause scurvy than the same milk pasteurized for the same length of time at 145 degrees; but that boiled milk was *less,* rather than more, apt to cause it than was either kind of pasteurized milk! Without going into his work at greater length, it will suffice to state that the element of staleness seemed to have more to do with the antiscorbutic value of the milk than did that of its after-treatment, whether that was boiling or pasteurization. The great, paramount importance of this question of freshness in the supplying of the huge quantities of such a perishable article as milk for a huge metropolitan area (brought as some of it is from a distance of several hundred miles) makes a vital issue of it. And if, as so many now believe, the difference of a day or two may make or mar the vitamine value of milk, we have here a factor of prime importance in the community's health program.

Coming down then to the practical application of all this theoretical discussion of nutritional values — what is the milk that we have been talking of, and assigning such great growth-producing virtues to? If "milk is milk," just as "pigs is pigs," we may as well end our discussion right here; for, counting in what is used in the preparation of cooked foods as well as what is drunk uncooked, we probably all of us get enough of this substance to rectify the vitamine insufficiencies of our diets. But *is* milk always milk, as we dwellers in this great city of six million city dwellers get it? Hess's work, and that of many investigators along this and similar lines, would seem to argue against this.

I think it cannot be doubted that in this city the best milk obtainable — certainly the only fresh milk, and the only raw milk — is what is known to the trade and the public as "Certified Grade A." If this is true — and I have never heard it seriously questioned — then the term for what is ordinarily considered the best commercial grade of milk, "Grade A Pasteurized," is a misnomer. This milk should be called "Grade 2"; the so-called "Grade B" is, in reality, the third grade of the product; and "loose milk" is Grade 4. Such a conception of certified milk as nothing more nor less than the best grade obtainable of the most important article in our dietary, would seem to make the provision of certified milk, not only for infants and invalids, but as well for the greater portion of our population, simply a matter of the financial ability of the consumer to pay the price. Unfortunately, as those of us who have ever seriously made the attempt to improve this particular part of the diet of our patients have found, this is by no means the case. The psychology underlying this state of affairs is worth a moment's consideration. I venture to hazard a guess that not five men here tonight can tell offhand the cost of the best steak obtainable, that of the best butter, or that of the best eggs; and further, that not five of us would object to paying the necessary cost of providing this grade of these articles for our tables. And yet probably nine out of ten of us could tell offhand that certified milk costs twenty-seven or twenty-eight cents a quart; and probably almost as many of us would strenuously object to paying the additional one, two or three dollars a week that it would cost us to replace the second or third grade product that is now supplying our tables. Why this one food should suffer this invidious distinction it is difficult to state.: One reason is perhaps the fact that the milk bill is almost the only bill which is paid separately for one dietary item. Another reason, I am convinced, is the fact that we have so long passionately adjured the public to "keep the roses in the kiddies' cheeks," et al, that we have allowed them to lose sight of the fact that what is good enough for the baby is not necessarily too good for the old man and the rest of the family. Another cause still is probably that we have heard so much of individual drinking cups, high-priced fancy cattle, and the meticulous chambermaid work that is lavished upon them, that we have forgotten the main fact involved — which is simply that certified milk is fresh, clean, healthful milk, collected by men whose health is guaranteed, in vessels whose cleanliness is guaranteed, from cows whose health is likewise guaranteed. In other words, it is no better than what anyone of us would want to provide for his family and neighbors, if he were himself living in the country and producing milk from a herd of his own. The grading of milk into the above four grades is, after all, a matter of deciding their comparative cleanliness, when we come down to the basis of the milk industry; and this is decided upon the basis of the bacterial count — certainly a fair criterion.

They say that no children's man can read or write a paper on any subject whatsoever, without coming round sooner or later to a controversy upon infant feeding. Far be it from me to upset this precedent. I do feel strongly that the only way in which we can account for the astounding successes that at times have been obtained with various bizarre systems of feeding, may possibly be on the ground, not of the modifications made to the milk, but of the purity and goodness of the milk when it came into the hands of the manipulator. Certainly the gamut has been run, from high, top-milk fat feedings to skim-milk dilutions; and from the whole, undiluted milk that the French sometimes feed immediately after birth, to the highly attenuated dilutions that we occasionally see. The involved percentages of the milk laboratories are made as a rule from milk either certified or otherwise most carefully supervised; while many a country baby has been brought up on highly unscientific concoctions that were nevertheless prepared from fresh, sweet, clean milk, which has perhaps been sufficient to overcome who knows what other shortcomings.

My own infant-feeding hobby is the universal practicability of maintaining breast-feeding, as well as of reinstituting it, even after weeks of neglecting it. But even here the newer knowledge of nutrition comes definitely into play. McCollum and others have shown conclusively that a nursing mother cannot fabricate amino-acids or vitamines, and contribute them through her milk to her nursling, except as they are present in her diet. She can rob her own body tissues to contribute them, but only to a very limited extent. The importance of fresh raw milk then, both to the pregnant woman and to the nursing mother, can hardly be overestimated.

I am convinced that the only way in which we can popularize the use of certified milk is through its recommendation by the individual doctor. There are some medical matters which the lay public insists upon deciding for itself — for example, the contagiousness of the common cold; the desirability of small-pox vaccination; and the claims of "chiropractic" — whatever that may be. There are others, however, sometimes far less unquestionably medical, on which they will act only upon the advice of their particular medical advisers; which they will definitely have none of, unless we urge them upon them. Among these are, for example, the advisability of the Schick reaction and toxin-antitoxin immunization against diphtheria; typhoid protection; and the importance of the use of certified milk. The producers and dealers assure us, if we need any such assurance, that practically all of their calls for certified milk come directly as a result of the prescription of a practising physician. The conception that certified milk is nothing more nor less than the highest quality of milk seems no nearer acceptance by the general public than it was when Dr. Coit and Mr. Francisco first collaborated to make a safe food for babies, a third of a century ago. It seems then as if there were but the two horns to the dilemma, for the doctors today — either to push certified milk as the highest grade of the most valuable food for *all* their patients, irrespective of age; or to throw it overboard entirely, and with it, all confidence in the value of the great mass of experiments, with their carefully drawn conclusions, that go to make up the body of our newer knowledge of nutrition.

Chorea Multiformi Adulti.

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THE following group of cases is described because the writer could find nowhere in medical literature any description to tally exactly with this entity. Various individual classifications of minor differences have for years been assembled by such observers as Dubini, Henoch, Salaam, Fredereich, Oppenheim, Goldflam, Oddo, Hueb, Morvan and Paget; but nowhere do these writers describe as a single group the composite symptoms here detailed.

CASE 1.

A. R., female, age 60, Russian, married, five healthy children. The only thing important in her past history was that she had no children until she was married eleven years. Her present illness started eight years ago, with a toothache. While her teeth were aching very much, she attended her husband who had been sick for four years with carcinoma and she gradually developed a neurosis, which started with a winking of both eyes, and a mental irritability. Her weight decreased gradually but steadily. In all she lost one hundred pounds. In all this time she showed only one other symptom, which was constipation; and nocturia twice. She has no dreams, no areas of anesthesia, no increase of reflexes; but a slight Babinski on the right side. Her family history is negative. Six years ago, after various failures in medical treatment, she was treated by a chiropractor and since then she has become very much worse. At present she presents gross and grotesque movements of the larger muscle groups. Her arms, legs, shoulders, head, eyes, mouth, etc., move in the most convulsive, clonic spasms. At times, the abdominal spasms are so strong that she micturates involuntarily, but only a little at a time. All these spasms stop during sleep. There is no insomnia. Her appetite is fair; her symptoms increase with excitement, and no sedatives seem to stop them. Physically she is negative, except for a neglect of bodily cleanliness. All laboratory tests have been negative.

CASE 2.

L. H. This patient was a druggist, 42 years old, born in this country, married, no children; with the following past history: He had three attacks of what was supposed to be Sydenham's Chorea — one at the age of 5, one at 9, and one at 13. He seemed to fully recover from these, until the present illness, which started twelve or fifteen years ago. This illness started after a mental upset from a definite cause. At present he is employed in a hospital in this city, in a menial capacity, for practically his board only. Two years ago, he was presented at the New York Neurological Society by Dr. Tilney as a medical curiosity, with a possible diagnosis between a chronic chorea and a hysteria. This patient has been under observation for the past three or four years, without any change in his symptoms. Like Case 1, he has lost a great amount of weight, and has the most grotesque movements imaginable of the large muscle groups. Shoulders, arms, legs, and even speech are affected. At times he cannot make himself understood at all. All his symptoms become worse when attention is drawn to himself. Mentally he is very unstable emotionally, but intellectually he has the earmarks of refinement and education. Blood and spinal fluid tests are negative, as are all other laboratory tests.

None of the physical findings of hysteria could be elicited on several examinations. His reflexes are hyper-active, otherwise physically he is negative. His appetitite, sleep and mental responses to stimulation are apparently normal. No treatment has made any change in his symptoms.

CASE 3.

R. P. A man 55 years of age, born in Germany, single, family history negative, came to this country entirely well when he was 15 years of age. After a discharge from employment, he became somewhat depressed, 20 years ago, and, like Case 1, he started with blinking of the eyes. At present his movements are so bad that he cannot leave his room unassisted. He cannot even feed himself or remain in a quiet position long enough to move his bowels or urinate without soiling his clothes or the toilet. He is very much depressed over his condition, but otherwise his emotional status is quite normal. He weighs only 95 pounds. The degree of his personal cleanliness is nil. His speech is not much affected, and he can hold a good conversation. His memory is quite normal. Physically many medical examiners have not been able to find anything pathological. As in the other cases, laboratory tests are negative, except a slight albuminuria, and a few hyaline casts and granular casts in the urine.

His symptoms disappear during sleep.

CASE 4.

Mrs. A. L. This patient is 60 years old, American, married, has 3 healthy children, has had two miscarriages. Family history: one sister committed suicide, and one brother is divorced; otherwise negative. Past personal history: negative. Menstrual history, patient passed her menopause at 50; no peculiarities during her active life. After her sister's suicide, patient claims she became very irritable and unhappy, and started with an athetoid movement of her left hand. This gradually went up to her shoulder, soon involved her neck, head, and gradually the biggest portion of her body. During sleep her symptoms entirely disappear. The condition has existed ten years, slowly progressing until about a year ago, since when the illness has remained in statu quo. She has no bladder or rectal symptoms, but like the other cases is a mere shadow of her former self. Her blood, urine and spinal fluid are negative. Her pulse is a little rapid — 100. Her blood pressure is systolic — 90, diastolic — 60. Her spasmodic movements present the same picture as the other cases, and even a layman could recognize the similarity to the other cases. Also, as in the other instances, none of the characteristic symptoms of hysteria are manifested. Mentally, she presents the picture of the average uneducated woman. Her memory seems quite normal, and she is not especially filthy in her habits. There is no marked emotional change apparent.

To summarize the conditions presented:

The family history is negative, except in one case it was neuropathic. The past personal history in one case is that of a chorea — apparently Syndenham in type. All the other cases were unimportant as to their previous pathology.

The present history in all the cases shows some connection with a mental shock.

Mental depression was quite common in each instance. Disappearance of the symptoms during sleep; the very slow progress without mental deterioration; the long persistence of the condition without any marked change of symptoms; the negative laboratory findings in all cases; marked emaciation in all cases; the lack of personal cleanliness; memory has remained intact in all cases. Appetite, sleep and mental responses to stimulation are normal throughout. The similarity of the grotesque, general contractions involving the larger muscle groups is almost without a parallel.

DIFFERENTIAL DIAGNOSIS

Huntington's Chorea — In this disease, the gradual mental deterioration, the hereditary history, and the slow progression are enough points for differentiation.

Dubini's Disease — This is found mostly in upper Italy and is usually accompanied with fever, and is of much shorter duration, with occasional epileptiform convulsions in 90% of the cases, and mortality usually within six months.

Henoch's Electrical Chorea — This is characterized by the quicker and apparently stronger spasmodic contractions. Preference for the muscles of the shoulder and back, and no cessation during sleep.

Fredreich's Papamyoclonus Multiplex — This usually omits the facial contortions. The tendency is to recover much more rapidly. The individual muscular twitching is more sharp and sudden and may be brought on by tapping the tendons of the muscles affected.

Habit Spasms and Tics — These do not usually become so general, are more stereotyped, and start from a definite physical irritation.

Hysteria Major — This ordinarily has concomitant symptoms, as anesthesia of palate, cornea, or skin areas. Often the patient is a dreamer, sleep-walker, or talks in his sleep. The symptoms often change either in intensity or location.

EDITORIAL

Books.

ONE regrets that the Social Hygiene Bulletin does not publish the name of its editor. The September issue contains a very thoughtful leader on "Today's Sex Novels," one that should entitle him to a personal appreciation; and in a recent issue of "The Outlook" Brander Matthews sheds tears over the books that he has lost. He asks how many modern boys have ever heard of Mayne Reid and Ballantyne and several others whose writings are as unknown to the present generation of youthful readers as are Hakluyt and Marco Polo to their grown-ups.

This subject of reading for boys has called forth some very thoughtful contributions in publications of all shades of color, during the last year, and there is yet much to be said about it. Professor Matthews refers lovingly to the Rollo books, but fails to say anything about Harry Castlemon and Oliver Optic and James Otis and Trowbridge and Horatio Alger and a good many others, including the author of the Elsie books, all of whom were summonsed before a high court of literary execution a number of years ago and most of whom were summarily sentenced to extinction, largely on the ground of literary inferiority and scientific inaccuracy. In their place today we have a long series of publications detailing the impossible achievements of half grown boys in aeroplanes and submarines and automobiles. The writer holds no brief for any of the older boys' story writers except in so far as they produced out of their abundance an occasional delightful tale. Toby Tyler was a very real and very wholesome boy and his adventures were altogether in the realm of the possible. Frank Nelson went through many unlikely experiences, but he was a clear-cut, wholesome boy, and his friends, Jim Lewis and old Bill Lawson, were good companions for any youngster, even though their English was not Shakespearean in its purity. Shall we say that it smacked more of pork than of Bacon? And Mayne Reid's boy adventurers gave us our first insight as to how to boil soup in a birch-bark bucket. They were a self-reliant, whole-hearted lot of fellows, and throughout all their adventures there was nothing to excite morbid curiosity nor to cater to unclean ideals. One fully sympathizes with Professor Matthews when we recall the times when we read those books and concealed them under the bedclothes and kept a wary ear open for Father's footsteps and strove to devise ways for turning out the gas without getting out of bed. We submit that these subterfuges were in no wise fostered by those books or their writers, but are characteristics common to all boys and to most girls and that their indulgence is far less harmful than the physical and moral strain of the movies, even when it is our parents who take us there; for we shrewdly suspect that a great many parents find it easier to fall back on the movies than to devise home-made entertainment for themselves and their children.

This brings us to the two dollar sex slobber novel. Circumstances made it imperative to lay aside the practice of medicine for a time and enforced idleness made the reading of light literature about our only solace, and then came a question of what to read, and friends submitted everything from H. G. Wells to Anderson. It is earnestly to be hoped that the literary taste of our friends is the result of necessity and not choice. I cannot believe that the bulk of the reading public purposefully creates the demand for the filth which is put out in the name of literature. I am convinced that an unwholesome business competition, based purely upon the question "will it sell," is the determining factor with the publishers of much of what is now offered for general reading. I would not have it understood that this is a wholesale condemnation of *all* present-day publications; it is levelled entirely at the stories in which so-called "sex problems" are the motive force. I grant freely that enlightenment upon the problems which arise between the sexes is essential for every man and every woman in order to erect a wholesome standard of living, but I emphatically deny what seems to be postulated by the foul-minded writers who are flooding the market with the reflections of their dirty selves masquerading as universal human problems, and that these are truly universal problems or that they reflect the thought of any but a small fraction of our race, just as I deny that the vulgar stories of a certain type of man are in any way representative of the virile mind. They are really the stirrings of the partly developed child striving to make the world at large believe that the boy is a man. "When I was a child I thought as a child, but when I became a man I put away childish things."

Now this is a problem that reaches very deeply into the mainsprings of modern life, and is intimately related to those upheavals of callowness, such as socialism and feminism and self determination and many other immature notions that are backed by an emotional horde of immature enthusiasts who assail everything that is, calling it reactionary and its supporters hide-bound conservatives. Were I to say that I am convinced that the so-called principles of democracy are absolutely misunderstood and that the blatant advocates of increased individual rights who are striving to dominate the world are but partly developed adolescents who mistake liberty for license, and freedom of thought and expression for unbridled indulgence in their own selfish desires, I should at once be branded as among the worst of the reactionaries, but it seems so plain when one compares present-day conditions with the well-known events of history that our so-called radical progress is in reality the evidence of moral decadence, that it is impossible to hold back an earnest word of warning even though one knows how little good it is likely to accomplish.

But there are some things which every one can do and this question of good reading offers firm ground upon which to build. There is not the slightest doubt of the earnestness which lies behind the efforts of a number of excellent societies and individuals everywhere to check the spread of venereal disease. Veneral infection depends on two vices, lust and ignorance. Lust can only be controlled, never eradicated, because it is an essential physical property. Ignorance, however, is remediable, and it is upon ignorance that the main attack has focused. It is unfortunate that all great moral movements sweep on with them not only the wise but the foolish enthusiasts, and one of the most difficult of all problems is to instill wisdom into the fool and moderation into the enthusiast. Now it is the output of the immoderate enthusiast joined to that of the calculating rascal that is providing the unwholesome mental provender of which we complain. The problem is to separate the two classes and to direct the honest energy of the one into more useful channels. It remains for all people who have the welfare of their own and other people's children at heart to actively discourage the purchase of improper reading matter. We are careful to exclude the Contes Droliques and the ribald tales of Rabelais from our library shelves, but we admit thereto a host of pathological books which, parading under the general title of problem novels, are far more vicious in their effect, for while the former are frankly nasty, albeit they have exalted literary excellence, the latter are insidious in their immorality and, for the most part, are beneath contempt as literature. Physicians have a tremendous opportunity to perform a very noble work in this direction. Think what it means when a man who is respected for his education, his experience, and his character points out to an inexperienced patient that the novel, or the serial, or the magazine article that he or she is reading is unworthy and degrading, and if he then takes the trouble to recommend one of those works of real worth of which there are so many (often handicapped by unattractive titles), and if he makes it a point to talk with those among his patients who have influence and whose opinions are considered, think how he may add his ripple to that wave of popular condemnation which will some day grow in power until it has washed away the dirt and has left behind it an undefiled sea of wholesome reading matter.

H. G. W.

Apologies, Mr. Longfellow.

OUR editorial attention has been called to one of those lapses to which even editors are liable.

In an editorial entitled "Rainy Vacations," we attributed to Louise M. Alcott, some lines from a poem by Henry W. Longfellow, called "A Rainy Day." Although Longfellow's reputation will in no wise suffer, nor his bust in Westminster Abbey be disfigured by this mistake of ours, we feel it proper to offer our apologies in the premises. We make some moment of this because our attention was called to it by an anonymous communication. As a rule, anonymous communications are consigned to the wastepaper basket without any qualms of conscience, for it is generally felt that a person who is afraid to sign his name to what he has to say is such a mean-spirited cuss that he should be disregarded, but in a matter of so much importance as the present, we feel it right that due acknowledgement should be made alike to Mr. Longfellow and his nameless champion.

H. G. W.

Society Transactions

Transactions of the Brooklyn Gynecological Society.

The 247th Meeting of the Society was held in the Library Building, 1313 Bedford Avenue, Brooklyn, Friday, December 2nd, 1921, at 8:45 p. m.

PAPERS

A. Tubercular Endometritis and Metritis . . . Dr. Charles E. Rynd
B. The Prenatal Significance of Pendulous Abdomen,
Dr. George W. Phelan

The Prenatal Significance of the Pendulous Abdomen.

George W. Phelan, M.D.
Brooklyn, New York

MY OBJECT in presenting this report, in truth a preliminary one, and in choosing the title of this report, is largely to derive the benefit of the discussion and criticism and of the men who have had a larger experience in the management of this type of case.

I am unfortunate indeed in the choice of my subject if I have led you to believe that I would attempt to pass judgment on the full significance of the pendulous abdomen; but fortunate am I if the choice of the subject has led each and every one of you to review in his own mind the cases he has encountered in which he feels the pendulous abdomen has played a part in the etiology of mal presentation.

I have diligently esarched the library for some clarifying thesis on this subject, but have been rewarded by finding an actual paucity of literature that is worth while. True, there is frequent mention of the pendulous abdomen on the whole, but it is dismissed as a simple etiological factor, and its significance not discussed.

My attention was called to this condition in a rather striking manner, because last spring, in a comparatively short time, I was called to treat six patients in labor, four having scapula presentations and two mental presentations. (These cases occurred on the service of Dr. H. Matthews at the Greenpoint Hospital, and on the service of Dr. R. Beach at the Bikur Cholim Hospital.)

I will review one case, as each is typical of the other save in the variation of the presentation and treatment. Mrs. Z, admitted to the

Bikur Cholim Hospital at 9 p. m. with the history of four hours of labor immediately following the rupture of the membranes. She was examined by the intern and because of the suspicion of mental position I was called. I recognized the patient as one we had seen in the prenatal clinic a month previous, at which time she had been advised to wear a binder or a maternity corset. Her general physical examination is irrelevant to her pregnant condition, save the condition of her abdominal wall. The pelvic measurements are as follows: I. S. 25; I.C. 28; Ex. C. 20; D. C. not reached; T of O 9½. Abdominal palpation gave the usual findings for a mental posterior position and this was confirmed by a rectal examination, which also showed the cervix dilated fully. The uterus was closely applied to the foetus, and with every pain the already prominent fundus would assume a more vertical position, and the angle between the long axis of the uterus and the brim of the pelvis would become more acute. The condition of the mother and baby was good and under light narcotics I rotated the chin anterior and the first pain caused the chin to appear at the outlet.

The most significant feature of these cases was not the mal-presentation but the pendulous condition of the abdomen and the accompanying deviation of the uterus. These patients presented on discharge one condition in common and that was the lax condition of the abdom-wall as shown by the absolute atonic condition of the recti muscles and a more or less marked degree of diathesis of these muscles.

To have a deviation of the axis of the uterus or to have obliquity of the uterus a pendulous and lax abdominal wall is not a necessary prerequisite, but we do know that these anatomical and physiological defects are indeed often accompanied by marked deviation of the axis of the uterus as well as various degrees of rotation of the body of the uterus upon itself.

Numerous other points must also be considered as part of this problem; the change, if any, in the intra-abdominal pressure, due to the relaxed and pendulous condition of the abdomen and its relation to the position of the uterus; the condition of the uterine musculature. As I have previously said, however, I do not wish, indeed I do not feel able to pass judgment on these questions as there are many details to be worked out yet and many observations to be made, but rather with the hope that you can help solve these problems I would ask the following questions:

(1) What is the principle cause of malposition in the presence of a pendulous abdomen?

(2) With a pendulous abdomen associated with pregnancy, what measure is best adopted to prevent malposition?

(3) How can the future mother be guarded in order that she may not attain a pendulous abdomen?

DISCUSSION

Dr. Alfred C. Beck:

"For a number of years, in the prenatal clinic, we have endeavored to anticipate abnormal presentations by the recognition of their causes, just as Dr. Phelan has outlined tonight. We had in mind in this work marked obliquity of the uterus, pendulous abdomen, and disproportion in the uterine and fetal ovoid due to an excess of amniotic fluid.

"We have found, just as he has reported, that we are able to, in a measure, anticipate some of the abnormal presentations, particularly face presentations, by marked obliquity and pendulous abdomen. I do not mean by that that every patient who has a pendulous abdomen is going to have a face, but I think we can anticipate most of the face cases if we have in mind all of these patients that have marked obliquity or a pendulous abdomen. At least that has been my experience. We have had a great many cases, however, who have had these apparent causes of malpresentation, deliver spontaneously a normally presenting child, just as in the case of Dr. Matthews'.

"Pendulous abdomen is given in most of the text-books as one of the common causes of transverse presentation. It has always been a great problem to me to determine just how a pendulous abdomen produces a transverse. I hoped that Dr. Phelan's study of the literature would give us some information on this particular point. Personally, I cannot see how the pendulous abdomen in itself could cause a transverse. As a rule, pendulous abdomen occurs (that is,, in these cases that have a transverse) in women who have had a large number of children, in cases in which the uterus is atonic, and not infrequently in which we have an excess of amniotic fluid, and I think that possibly in these cases one of these other factors rather than the pendulous abdomen is the cause.

"We haven't gotten anywhere in preventing, by our prenatal work, the occurrence of abnormal presentations, but by recognizing these causes we have anticipated most of our breeches, most of our transverse and face presentations, and, as a result, have confined them in the hospital. That is the best we could do as the result of our prenatal work. On the other hand, there is no question but that we have confined a great many cases who came to the hospital unnecessarily, because of the presence of this condition, and found that they had a perfectly normal presentation rather than an abnormal one."

Dr. Harvey B. Matthews:

"This is a very interesting subject.

"We had one of these cases at the Methodist-Episcopal Hospital in 1913 in addition to the case at the Greenpoint Hospital that Dr. Phelan has told you about tonight."

At this point in the discussion, the doctor went to the blackboard and illustrated the relation of the uterine tumor to the pelvic inlet, and remarked that the fetus is in proper relation to the uterine axis, but the uterine axis is parallel, instead of perpendicular to the inlet, and stated that by bandaging and manipulation, if the uterus can be brought to or near its anatomical relationship to the inlet, labor takes place spontaneously.

Continuing, the doctor said:

"In my experience, the anomalous presentation is entirely due to the falling forward of the uterus and the fetus has been in the normal axis of the uterus and is only transverse because of the position of the uterus, vertex, or face, or brow presentation occurring depending on the position of the fetus in the uterus. The case in question delivered today is a normal occiput anterior.

"Regarding treatment: the prophylactic method is always preferable, corset early in pregnancy, etc., but one must remember after labor has begun, the possibility of a rupture through the cervico-vaginal septum, in which case the fetus escapes into the abdominal cavity. The case that I referred to above at the Methodist Hospital was a case on Dr. F. C. Holden's service that was brought in on the ambulance with a history and signs of ruptured uterus. She had an extremely pendulous abdomen and had been in labor only three or four hours when she suddenly went into collapse and her family doctor sent her immediately to the hospital. Dr. Holden did a quick laparotomy and found a dead full-term child with placenta free in the abdominal cavity. The uterus had a large transverse rent at the cervico-vaginal junction. We proceeded to do a hysterectomy. The patient lived about twenty-four hours and expired. This case that Dr. Phelan has reported kept me a bit on edge for I don't see how one is going to tell when a rupture of the cervico-vaginal junction is impending. I still maintain, even though our case at the Greenpoint Hospital today delivered spontaneously, that unless you can get the uterus, by a tight bandage posture, etc., in its proper axis with the superior strait of the pelvis, Caesarian Section at the onset of labor is the safest treatment."

Dr. William Pfeiffer:

"I don't think it is the number of babies so much as it is the rapidity with which the woman becomes pregnant, by which I mean the small number of months intervening between pregnancies before the muscles or recti have a chance to regain their tone. Of course, we have all confined multiparous women with ten or eleven children without any such thing as this. I think the cause of it lies in the repeated pregnancies occurring close together. It might be interesting to find out how much can be charged to faulty inclination of the pelvis.

"Dr. Hirst has a very excellent support for something of this kind which it seems to me is pretty nearly the ideal thing, holding up abdomen and uterus with strapping from the shoulder, not just the ordinary abdominal supporter, to prevent the recurrence of this thing.

"Might it not be well to commence exercises in bed as early as possible to develop the tone of the muscles, because that seems to be the fault, to hold the uterus up in place?

"I don't quite agree with Dr. Beck. I don't see the mechanism of transverse in this. Face can be easily figured out. That is one of the things we persistently teach — obliquity of the uterus or pendulous abdomen as causative factors of face presentation."

Dr. Ralph M. Beach:

"The most important thing to my mind in this subject is the question of prophylaxis.

"The keynote of the treatment for pendulous abdomen is about the fifth month of the first pregnancy the woman has. I don't think there is anything more important in the prevention of these abnormalities than the wearing of a proper fitting corset beginning with the first pregnancy at about the fifth month or before and wearing it to full term and following with its use in each succeeding pregnancy.

"I am teaching in my office every day the wearing of a corset and the necessity of holding these recti muscles together. These pendulous abdomens occur in women, multiparae, who have gone through a number of successive pregnancies without any support whatever. The pendulous abdomen increased with each pregnancy. I have seen women in the office with their third baby with tremendously pendulous abdomens and wearing no corset whatever. I have delivered as many as six babies in one patient, beginning with the first baby when I originally began to practice, and she has almost as good an abdominal wall as when she started.

"I think the whole trick of this thing is prevention. I think we should teach the use of the maternity corset. The patient comes to me, a multipara with a pendulous abdomen. I put a straight front maternity corset on her, and I will say I see very few malpresentations at term in these women, even with a pendulous abdomen. They put on a straight front maternity corset at about five, five and a half or six months with a high back, the back of the corset running well up to the shoulder-blades, and it is of great assistance to them. If they have a markedly pendulous abdomen I don't use the low, straight-front corset, but a corset with a fairly high front. They wear them throughout the pregnancy. As soon as they go into labor they are kept on their backs. A tight abdominal binder is fitted on at the onset of labor and kept on. I have seen very few of these transverse or face presentations which are supposed to go with this proposition. I think if the abdomen is kept in the upright position throughout the pregnancy' the fetal ovoid will assume the upright posture, whether it be a breech or a vertex. As time goes on, when they come to term, they will have a vertex presenting, and if they are kept in bed throughout the labor with a tight abdominal binder on, I must say that I haven't seen many of these malpresentations. I think the majority of these women will deliver themselves if that procedure is followed."

Dr. William A. Jewett:

"The Chair agrees with Dr. Beach on the question of the wearing of maternity corsets. I know there are some who disagree with this view, and if there are any here I would like to hear the other side of the subject."

Dr. Philip Oginz:

"We do not find so many pendulous abdomens in the section in which I practice, and there are very few of the women out there who wear corsets. They have many pregnancies and do not get much of a rest between pregnancies and still they do not have pendulous abdomens, as Dr. Beach seems to think they should without wearing corsets.

"In cases of that kind I make good use of the husband during delivery, using him to support the abdomen in order to relieve the strain on the muscles and help the woman during her pains. I find no difficulty in getting through with a normal case. Very few of those cases have abnormal presentations that I can remember. Our patients cannot wear those corsets, for most of them say that they have their housework to do. Perhaps in the better class of patients you can get them to wear them."

Dr. Ralph M. Beach:

"May I say another word, Mr. President?

"I would like to state that I have poor patients, as well as rich ones. I have no trouble whatever in making these women put on a maternity corset, and I think I have more genuine facts in this poor type of woman with pendulous abdomen than in any other type of patient I have. I recall one para-18 who came into the office, an Italian woman, with a tremendously pendulous abdomen. I told her she should put on a corset. She said, 'All right, the next time I will have a maternity corset.' It happened that I delivered her 14-year-old daughter a year previously. This little slip of a 14-year-old girl had a maternity corset. The mother took that corset and the next time she came to the office she had a belly just like this (indicating) with her daughter's corset riding on top of her abdomen. I sent her to a corset place, where she had the proper type of corset fitted to her.

"The trouble with these women is that they are not used to wearing these corsets, and unless you anticipate these pendulous abdomens and start them wearing them at or before the fifth month of pregnancy they are not comfortable. You cannot take a woman at or near full term and get her to use one of these corsets because she cannot put a corset on. If you start them at the fifth month or before they will be most thankful for the aid which the corset gives."

Dr. Alfred C. Beck:

"Since this subject has developed into a discussion of the maternity corset, I would like to say that I subscribe to what Dr. Beach has said. In my practice I always prescribe a corset and see that it is properly adjusted. There are different corsets on the market and many of them are not worthy of mention. I don't believe I have ever had a face or a transverse presentation in any of my private patients who wore a maternity corset.

"My remarks were largely concerning our charity clinic, our prenatal clinic at the Long Island College Hospital, where, in the first place, the patients, as a rule, do not have the funds to purchase a corset, and, in the second place, are opposed to wearing a corset. A great many of these women have never worn a corset in their lives, and it is almost impossible to get them to wear one.

"It is my custom to have them put the corset on lying down, with the knees flexed. In that way the corset fits them snugly, and, as a rule, they feel very much better."

Dr. George W. Phelan:

"Dr. Beck raised a question about transverse presentation in pendulous abdomen. Every English text-book gives as an etiological feature the pendulous abdomen, i. e., as one of the causes of transverse presentation.

"Dr. Beck also referred to hydramnios as a cause of transverse presentation. Duncan is about the only man who has done any work that is scientific along that line. He showed in 1860 that the greatest point of specific gravity is towards the right shoulder and posterior, and in cases of hydramnios, especially with a small baby, if we do not accept the vital theory, purely physical laws can account for the malposition.

"In pendulous abdomen DeLee recommends that the patient assume the squatting position the same as the Indians. If the patient goes into the intense squatting position, the knees accomplish what we try to accomplish with the aid of the husband or with bandages.

"The other thing I was glad to hear referred to was the use of the corset. I have adopted the same practice in my private work.

"I have noticed in primiparae who have properly fitting corsets that the development of striae gravidarum is very much less noticeable than in those cases which do not wear a support."

Transactions of the Brooklyn Gynecological Society.

The 249th Meeting of the Society was held in the Library Building. 1313 Bedford Avenue, Brooklyn, Friday, March 3d, 1922, at 8:45 p. m.

CASE REPORTS

1. Tubo Ovarian Tuberculosis with Unusual Complications
(*By Invitation*) Dr. Walter A. Sherwood

2. Tuberculous Salpingitis . . . . Dr. Gordon Gibson

PAPER

Breech Presentation . . . . Dr. Joshua Ronsheim

Breech Presentation.

Joshua Ronsheim, M.D.
Brooklyn, New York

IN TAKING up the subject of breech presentation I propose to discuss only those cases in which the breech presentation is not associated with any other abnormality of the pregnancy itself. This discussion, therefore, will naturally exclude placenta praevia, monstrosity, and other conditions which might influence the management of the case.

Breech presentation occurs in about three per cent of all cases and gives a fetal mortality from five per cent to thirty-seven per cent, according to various authors. This is the natural result of certain definite complications which arise during the delivery and are the direct result of the breech presentation itself.

1st. Pressure on the cord during the birth of the thorax and head.

2nd. Premature rupture of the membranes. This is the result of the breech not being a satisfactory plug for the pelvis inlet, thereby allowing the full effect of the uterine contractions to be exerted on the presenting membranes. The loss of amniotic fluid which results permits the pressure of the contractions to be exerted on the baby itself; pressure of the fetal head on the placenta is increased; and lastly, the prolongation of the labor because of slower dilatation of the cervix.

3rd. Prolapse of the cord. This is really a direct result of premature rupture of the membranes.

4th. Contraction of the placental site. When all but the after-coming head has been delivered the uterus is contracted to such an extent as to not only shut off placental circulation, but to actually cause separation of the placenta. The head still undelivered and the circulation obstructed, the child may succumb if not delivered in a reasonable time.

5th. Fracture and dislocation of the cervical spine resulting from efforts to deliver the head.

6th. Foot presentation. As a result of this condition the soft parts are not sufficiently dilated and render the delivery of the arms and after-coming head more difficult.

To this group must be added what I believe is the most important cause of fetal mortality — meddlesome interference. So many practitioners are still of the belief that a breech cannot deliver itself that the moment the diagnosis is made they proceed to extract, and dead babies are the natural result.

Likewise, the morbidity is greater than in vertex Presentation. Fracture of the femur, humerus, and clavicle; laceration of the brachial plexus, avulsion of cervical nerve roots, dislocation of the atlas, and cerebral injury are among the prominent birth traumata incident to breech presentation.

Aside from the increased number and extent of perineal lacerations and a slightly increased tendency to infection the maternal mortality and morbidity compare favorably with vertex presentation.

The transforming of a breech presentation into a vertex presentation antepartum or in early labor is more or less casually described in practically all text books. External version requires that the head be held in position at the brim until engaged. When done before labor has started this is accomplished by keeping the patient in bed with pressure at the sides of the abdomen until labor starts. This is practically out of the question in private practice. If done early in labor in a primipara it may be necessary to rupture the membranes after the version is accomplished so as to facilitate engagement. This carries with it the danger of prolapse of cord or arm, not to mention dry labor and faulty position of the occiput. Internal version requires anesthesia and carries with it the danger of infection, rupture of cervix or uterus, prolapse of cord, separation of placenta and various other complications.

Personally I have had no experience with this method of treating breech presentation, having always preferred to handle these cases as a breech instead of interfering. My reasons for so doing are that I have always felt that breech presentation is properly classed as normal and that it is safer to let well enough alone. At this point it is interesting to note that in his "System of Obstetrics," published in 1866, Hodge wrote as follows: "Nature is adequate to the unassisted delivery of the child in presentations of the breech, and these and other pelvic presentations should be arranged under the head of simple and natural delivery." And again, "Nevertheless, notwithstanding all these dangers are too frequently aggravated by hasty and unscientific assistance from indiscreet or uneducated accoucheurs, delivery is usually accomplished, not only without much delay or suffering, but often with great rapidity, and with perfect safety to mother and child." In his text-book of obstetrics Pankow says, "Breech as such is not an indication for interference: the treatment is entirely expective. It is not to be forgotten that all too often poor interference increases the danger for the child." Bumm is emphatic in his statement that "in uncomplicated breech presentations interference before the expulsion of the breech is forbidden."

The delivery of a breech as such may be classified under four headings:

Normal breech delivery
Breech extraction
Breech extraction after pubiotomy
Cesarean section.

The first and most essential point, as stated above, in the management of a breech labor is to leave your hands off. Could we but drive this point home there would be less stillbirths to explain. The membranes must be conserved if possible to afford a proper dilating wedge for the cervix and prevent the evacuation of amniotic fluid with its resulting train of complications. The labor should be allowed to progress unmolested until the breech has been delivered, at which time, if no traction has been made on the lower pole, the arms and head are still flexed and can be delivered with ease. At this stage it is often necessary to use anesthesia. The management of extended arms and of the aftercoming head will be taken up under breech extraction.

If labor is arrested from any cause interference is imperative. When the membranes have ruptured prematurely and the cervix does not dilate, then, and only then, is the accoucheur permitted to institute methods of enhancing dilatation. I believe the most satisfactory method is the introduction of a large Voorhees bag; it requires the least manipulation, and is the last traumatizing. The bringing down of a leg will accomplish dilatation, but adds to the baby's risk both from exposure and by the fact that the breech, being reduced in size, does not afford sufficient dilatation for the after-coming head. For the same reason greater lacerations are to be anticipated. Incisions of the cervix may be used; this method is the least desirable for it does not accomplish dilatation but substitutes something for it, and, if not thorough, the incisions may extend by laceration into the lower uterine segment with its resultant dangerous hemorrhage.

If dilatation is complete, or has been artificially completed, and the breech is arrested at the inlet or high in the pelvis, one or both legs must be brought down. In a half breech this is easily done; when the legs are extended the anesthesia must be deep enough to produce complete relaxation. The hand whose palm faces the fetal abdomen is introduced through the cervix into the cavity of the uterus to the point where the fingers can make pressure in the popliteal space; this will cause flexion of the leg and bring the foot within easy reach of the fingers. As soon as this is accomplished the anesthesia is stopped and I wait a short while so that the patient will bear down as I exert traction in the hope of continuing the flexed attitude of arms and head. If success crowns my effort in this respect the delivery of the arms and head are facilitated.

If the breech is arrested low in the pelvis or at the vulvar outlet a finger hooked into the anterior groin produces traction synchhronous with the labor pains and accomplishes the delivery of the lower pole. Very occasionally forceps may be applied to the lower pole.

The body having been delivered, the arms must now be brought down. If still flexed, this is easily accomplished; the elbows are easily reached with the palpating finger and the forearm extended downward over the chest. When extended traction is made on the lower pole to draw the posterior shoulder as far down as possible; then, the traction still being maintained, the body is carried upward toward the mother's abdomen. The hand whose palm faces the fetal back is now inserted until the fingers reach the shoulder; from this point they follow the upper arm to the elbow. Pressure is now made to flex the elbow joint and bring the forearm within reach of the fingers, and by pressure and traction the forearm is guided across the fetal chest and brought down into the vagina. Care must be used not to exert traction or pressure at the shoulder or middle of upper arm as in this way injury to the brachial plexus, fracture of the clavicle, and fracture of the humerus are produced.

The fetal body is now rotated 180 degrees, the arc of rotation being toward the anterior aspect of the baby. This brings the opposite shoulder into the hollow of the sacrum and the arm is brought down in the same manner. If the body be rotated in the wrong direction the danger of a nuchal hitch is invited and absolutely obstructs further delivery. When produced, the nuchal hitch must be undone by rotating the body in the opposite direction.

We now come to the delivery of the after-coming head — the last but, to my mind, by no means the least important of all. By means of the Smellie-Veit hold on the face the head is kept flexed, or, if extended, is brought into a position of flexion and at the same time the antero-posterior diameter of the head is brought into the same diameter of the pelvic inlet. The other hand gives assistance by very slight traction on the shoulders. Permit me to emphasize the fact that this traction must be very slight, as pronounced traction will cause the head to extend in spite of the Smellie-Veit hold, and so prevent delivery. It is also the cause of brachial palsy, fracture of the clavicle, rupture of the sterno-cleido-mastoid muscle and dislocation of the atlas. What is most important is that the head, when properly held by the accoucheur, must be pushed through the inlet into the pelvis by pressure exerted by an assistant just above the symphysis. As soon as the head has entered the pelvis the body is grasped by the lower extremities and carried up over the mother's abdomen, causing the head to extend. As soon as the mouth appears at the vulvar outlet the nurse removes all mucus from the throat. The head is then born by flexion over the perineum, being milked out in quite the same way as the fore-coming head in vertex presentation. The perineum will usually tear, more or less extensively depending on how thoroughly the vagina has been ironed out, on the size of the head, and on the ability of the accoucheur. Where extensive laceration is anticipated a preliminary perineotomy should be done.

When delivery of the head, in spite of proper handling, is unsuccessful, forceps may be applied. Where the head is arrested above the brim there is as much indication for the use of forceps as in a fore-coming head floating above the brim; that is to say, never. However, when the head is arrested in the pelvis forceps may be used. The body is carried upward over the mother's abdomen while the blades are being applied. This emergency is rather unusual, as a head that has come through the pelvic inlet will usually cause no further difficulty.

When delivery of the head cannot be accomplished within a reasonable time and the accoucheur is convinced that the child is hopeless, all efforts to obtain a living baby should be abandoned. Perforation of the after-coming head is the only rational procedure at this stage. I am firmly convinced that our first thought in all obstetric procedures must be the integrity of the mother. To the writer's mind there is nothing more distressing than a mother mutilated beyond help, sterile beyond hope, and more or less of an invalid for the rest of her life because some one foolishly tried to save a dying baby instead of sacrificing that baby and leaving the mother in condition to have another.

Breech presentation, associated with contraction of the pelvis, is to be handled in one of two ways. When the disproportion is too great for safety, and particularly in a primipara, the operation of choice is Cesarean section. In the lesser degrees of inlet contraction, and especially in contraction of the pelvic outlet, pubiotomy has its place. The prophylactic placing of a Gigli saw is practically harmless and may be the means of saving an occasional baby which would otherwise be lost. The technic of placing the saw is quite simple; if the saw is used the integrity of the bladder and sacroiliac joints must be safeguarded.

From the medicinal point of view there are two drugs that must needs be mentioned. These are morphine and pituitary extract. The judicious use of morphine in these cases is the accoucheur's greatest asset. It is the writer's opinion that it is used far too seldom, and the dosage, when it is used, is far too small; anything less than one-quarter grain is useless. Pituitary extract has absolutely no place in the management of a breech presentation.

DISCUSSION

Dr. R. M. Beach:

"I was very much interested in hearing this dissertation of Dr. Ronsheim's on breech presentation.

"I think he has brought out many good points in the management of breech. I am very thoroughly in accord with his idea of leaving a breech alone. The very best results, both from the fetal and maternal standpoint, but particularly from the fetal standpoint, are obtained by non-interference.

"I think we have all gone through the experience in our early days of breech presentations of the moment we could lay our fingers on anything to pull on we always had a tendency to get hold of the presenting part and pull the breech out, and I think we have all recorded some stillbirths in our early days.

"My management of a breech, then, is to leave the case absolutely alone, allow the perineum to dilate regularly, just as if we had a vertex, and leave the case entirely to nature until the buttocks are practically out of the vulva. The important thing at this stage is the watching of the fetal heart. I don't think enough emphasis is laid upon the necessity of watching the fetal heart from the moment the breech comes down to the pelvic floor. With the DeLee stethoscope, under these conditions, we can listen to the fetal heart and we can determine whether the fetus is in good condition or not. My routine, when a breech has dilated the perineum to a certain extent, if a primipara, is always to do a lateral episiotomy before I start anything. Then we give a quick anesthesia. This is preferable to my mind — a quick anesthesia with chloroform, and then the assistant practically presses the breech out from above and from below nothing is done except to guide the delivery. If we follow this routine, especially starting with pressure from above and using no traction from below, with a wide lateral episiotomy, it is surprising to note how easily these breech babies slip out in primiparae. If we don't do the lateral episiotomy and we have difficulty with the arms, extended head, or anything of that nature, we are almost invariably going to get severe lacerations. I think a preliminary episiotomy in primiparae is absolutely essential in these cases.

"I cannot agree with Dr. Ronsheim's statement that the use of forceps on the after-coming head in a breech is ever indicated. I believe forceps on the after-coming head in a breech is an obsolete operation. I believe it is an absolutely obsolete operation. Any baby that you cannot get out by a little traction from below and a great deal of pressure from above (and the pressure from above is the most important thing) — any baby that you cannot get out, or that your assistant cannot help you get out with pressure on the after-coming head, cannot be pulled through with forceps. I have tried it numerous times unsuccessfully. I have been caught with an after-coming head that I couldn't get through by pressure from above, and felt the fetus was dead, and put on forceps, and have never been able in a case of this type to get the case out with forceps. I believe it is an obsolete operation.

"The difficult cases of breech are the cases of breech presentation in a borderline pelvis. These are the most difficult obstetric cases in which to decide what to do. We must weigh the amount of disproportion, the apparent size of the baby, and the relative importance of the child to the mother, and we have to decide as to what is the best thing to do. In late years I have been rather in favor, if there is any contraction to amount to anything in the pelvis, to suggest a cesarean section to the people and let them decide, and if we get a dead baby then the blame is upon them.

"With regard to the Gigli saw: A number of times I have had a case in which the after-coming head was stuck in the brim or at the outlet and we got a live baby. I believe the prophylactic passage of a Gigli saw is certainly a life-saving proposition to many of these babies. Still I don't like pubiotomies in primiparae because I am afraid of the lacerations.

"I must admit that in these pelvic contractions we are up against it. Of late years, in any pelvic contraction, I have gotten more to favor, or at least suggest, to the people the question of cesarean section, and then in case of getting a dead baby the blame rests upon the people."

Dr. A. C. Beck:

"We have recognized the danger of breech to the child, and have tried for a long time to substitute a vertex for the breech presentation by external version in the prenatal clinic. There is no question but that a large number of cases of breech presentation that we all see at 8 or 8½ months would become vertex cases when they deliver. We turn all that we can turn. In all probability many of them would take care of themselves. If we see the case early in labor, it is not a very difficult matter to turn a breech by external version, and I have done this quite a number of times. There is very little risk to the mother or child provided the version is done early in labor. As the doctor stated, most of the difficulty in our breech presentations is due to the fact that we are too hasty. We not only follow the fetal heart, as Dr. Beach suggested, but as soon as the umbilicus appears, instead of extracting, as I was taught, and as most of the text-books recommend, we prepare for a breech extraction. We then watch for a change in the pulsation in the cord before attempting any maneuver, and it is surprising to see how many of these cases deliver spontaneously, particularly the multiparae. I judge that that is the doctor's technic.

"Now, with regard to lacerations: I think that the more experience we have the less hasty we are, and, consequently, the less frequent are the lacerations. It is my practice when the chin comes out to extend my child, wipe out the mouth, and then stop the extraction. If my baby gasps, I resuscitate it with the head still in the vagina, holding the feet up in this manner (indicating), and if my baby breathes with the head still in the vagina, sometimes I take half an hour to complete the rest of the delivery. I have been doing this for three or four years. Since that time the lacerations are not nearly as extensive as they were.

"If I am going to do an episiotomy, I personally prefer a lateral episiotomy in these cases."

Dr. William Pfeiffer:

"I have only to say Amen to all that has gone before. I would, however, like to ask a question. Did I understand Dr. Ronsheim to say that he brought the sagittal suture into the brim in the anterior-posterior diameter of the pelvis? So far as the brim is concerned, if the child is a snug fit, that may offer considerable difficulty, and at times it is necessary, when you cannot rotate the head into the oblique with the fingers in the mouth, to take the half hand and press the head into that portion of the pelvis that the sagittal suture comes into the brim in one or the other of the obliques, preferably the right. It makes the extraction easier. In hospital cases of breech (and by the way, we are having a larger percentage of hospital deliveries in private practice) we have our interns to help us. The few that fall to our lot at home should not be handled without the attendance of a skilled assistant, not depending upon a nurse at all in those cases. I think it is more expression than traction in these deliveries."

Dr. Charles A. Gordon:

"The most important thing, to my mind, in private practice is not to deliver breech cases in bed at home, as it is a very difficult operation.

"I feel the use of forceps on the after-coming head is perhaps a valuable procedure at times.

"I cannot agree with the statement of perforating the after-coming head while the baby is still alive. That gives the baby no chance at all.

"In the hospitals where I work we have no resident, and we have been for some time past trying to develop some kind of a technic for the delivery of breech cases that would be as fool-proof as we could make it. Our interns wait until the breech is well down at the vulva and then they are permitted to use very slight traction with greater pressure until the body appears to the umbilicus. Then the cord is felt, as Dr. Beck points out, for pulsation, and pulled down a little if necessary, and the child is watched and the fetal heart is watched, and from that time, if the heart flags, then strong pressure and strong traction downward and backward, are made after the method of Potter in delivering the breech, and this will oftentimes bring the anterior arm under the symphysis and the posterior arm drops out in lifting the baby up, and we very rarely see it fall."

Dr. R. H. Pomeroy:

"The most important point that Dr. Ronsheim brought out is, I think, the distinction between a breech extraction and a breech delivery. A breech delivery can certainly take place spontaneously without any help at all. Imagine what happens, or would happen, in the breech delivery of the aborigine in the squatting posture under those circumstances. If the child is extruded to the point of the breech by actual delivery, there is added to the force of expulsion, as by that time only the head and shoulders are left inside, the weight of the child's body (that is about the limit of traction force that we should consider reasonable). Also, isn't it evident that the anterior shoulder is the one that is going to drop out first? It has the shortest distance to go, and observe that the patient also is not under an anesthetic, and that she is doing her best to get rid of the thing that is bothering her.

"I want to emphasize even more than Dr. Ronsheim did the doctrine of non-interference in a breech delivery, to the extent of making a clear-cut exclusion of anesthetics at all at the time of the breech delivery, if it is going to be considered a breech delivery and not a breech extraction.

"In managing a breech case, if you have planned, or expected to plan, a delivery and not an extraction, be sufficiently cruel to that woman to whip up her exertions in expelling that child herself.

"If you are going to deal with a breech case as a breech extraction at all, it should be dealt with frankly in terms of the Potter version extraction, and it is foolish not to recognize the considerable detail and safety of Dr. Potter's principle of extraction by the breech. If you have allowed the mother to drive the child's body down to the outlet and the child has size enough to be taken into consideration to do any dilatation at all, you must assume that by the time the child's body has worked its way through the cervix that the cervix is at least as far gone as you can possibly expect it to be, even if you do use bags as a preliminary part of the program. Assuming a reasonable sized pelvis, your real problem and the point at which most dangers of breech cases get into trouble is when the head is caught in some degree of retraction at the lower uterine segment. If you are going to extract a breech, the patient should be anesthetized to the point of utter relaxation of the uterus, by either chloroform or ether, used for a long enough time so that the patient is really under so you can do laparotomy and not have to scold the anesthetist for allowing the intestines to escape out of the wound.

"Dr. Potter has adopted many features in the management of breech extraction that have been spoken of before by other people. The delivery of the anterior shoulder is in the literature under the name of the Venter maneuver already, and he has merely emphasized that method of dealing with traction. Any traction that is logical on the breech is a traction in the direction of the axis of the brim as near as you can get it. That is the logical way to make the head descend into the pelvis. If that is carried on long enough, it will bring the anterior shoulder within very easy reach: it must do it. That is known as the Venter maneuver. It was so known before Potter adopted it.

"On the general subject of episiotomy with reference to the after-coming head, it is perhaps fair to say in self-defense, since I am supposed to cut everything in the median line, that I do not advocate median perineotomy in the delivery of the after-coming head, for one very simple reason, namely, that nearly all of us are compelled to make a hasty delivery of the after-coming head in some cases, and you cannot manage the median episiotomy in the head-first case in precipitate delivery. I advocate, if an episiotomy is done, the lateral episiotomy in the breech case."

Dr. H. B. Matthews:

"There isn't very much left to be said, except to agree with most of the discussers of this subject, and to say that I agree with Dr. Ronsheim and disagree with Dr. Beach, that sometimes, particularly in the home, where it sometimes happens that you haven't sufficient help, forceps on the aftercoming head will certainly save some babies. I have done it on several occasions and have gotten live babies.

"There is one thing that hasn't been sufficiently emphasized, which I would like to speak about, namely, morphin in these breech cases. You naturally do not expect quite as rapid dilatation in breech as in vertex presentations. Labor is apt to be a little more prolonged. If it is a mixed breech it may come down and 'crown' even before full dilatation takes place. If you have a relatively small body and a relatively large head you may have considerable laceration of the cervix with the delivery of the after-coming head. For these reasons, and to obviate this difficulty, morphin should be used more often than it is. And I agree with the doctor in the statement that when you give it, you should give enough to do some good — ¼ grain, repeated as often as necessary. Often one dose is enough. I also think pituitrin should be condemned and should never be used in these cases. I think in the contracted pelves cases, as stated by Dr. Beach, cesarean section comes in for serious consideration, particularly if the baby is an important one, or if it is an older primiparous woman, say 35 or more."

Dr. H. M. Mills:

"In dealing with these cases I make it a rule to boil up the forceps and have them ready, whether they are needed or not. I feel I have saved some babies by using forceps on the after-coming head, having the bladder thoroughly empty and the forceps ready for use. If there is any difficulty with the after-coming head, I apply the forceps and save the baby."

Dr. R. M. Beach:

"May I amplify my statement about forceps on the after-coming head? I admit that if you are in a house and the aftercoming head is stuck, you can get the head out better by forceps than by pressure. But you cannot pull and press at the same time. If you have an assistant pressing on the head from above and he cannot press it out from the pelvis above, you cannot get it out with forceps. I have tried that more than once and I know."

Dr. Joshua Ronsheim:

"I want to disclaim any ownership of the riot that Dr. Beach produced on the question of forceps. I didn't start it. He started it. He misunderstood me. I referred to the use of forceps as contraindicated in cases where the head is above the brim, just as in a fore-coming head floating above the brim; and the head having entered the pelvis rarely produces any further trouble. I believe absolutely that the head, once it has passed through the brim, can be pushed through without any difficulty whatever except in contracted outlet, and there pubiotomy comes into effect.

"Dr. Beck, on the subject of version, emphasized the danger in dealing with that, and I cannot discuss that subject.

"Watching of the cord in multiparae rarely has to be done, especially if the patient has been lacerated before, because she pushes the baby out in one lump. In primiparae, after the mouth is born, there is no haste whatever. You simply wipe out the mucus and you can wait all day long if you wish.

"Dr. Gordon also misunderstood me on the subject of perforation. I never perforate a living child. I said if, after a reasonable time, the head is not delivered, and you are sure the baby is dead, after watching the pulsation of the cord and keeping track of the fetal heart, the only thing left is to do a perforation.

"Dr. Pomeroy's remarks are perfectly justified in a breech delivery where no interference is required at all except to express the after-coming head, delivery of the shoulders usually causes no difficulty. I don't believe that a primipara can push her after-coming head through unless it is a very small-sized baby or a premature baby; Dr. Matthews, on the subject of morphin and pituitrin, agrees with me."

Pelvic Tuberculosis.

Gordon Gibson, M.D.
Brooklyn, New York

MARY F., age 22, single, Italian, 10 years in the United States, was admitted to St. Peter's Hospital on October 26, 1921, complaining of pain in the lower abdomen and general weakness. The family history was negative. Her previous history showed that she had had measles while a child and influenza followed by pneumonia in 1919. Her menstruation began at 13, was regular, and lasted from five to ten days, with slight dysmenorrhea. The last menstruation was two weeks before admission and was more profuse than usual. The present illness began five weeks before admission, when she was seized with pain in the lower abdomen, fever, and weakness. She soon began to vomit, and has continued to do so at intervals up to the time of admission. There has been constant abdominal pain, fever, chills, and night sweats.

. Physical examination shows a thin, pale, very sick looking young adult female. The head, face and neck are negative. The eyes react sluggishly to light and accommodation. There are several badly decayed teeth and the mucous membrane of the pharynx is deeply congested. The lungs are negative. The heart action is rapid, but the sounds are normal. There is tenderness and rigidity over the entire abdomen, more marked in the lower quadrants. There is a mass extending from the pelvis half way to the umbilicus, which is smooth, fixed, and very tender. Pelvic examination reveals a nulliparous vagina and cervix. The latter is fixed and tender on motion. The pelvis is filled with exudate which extends up into the abdominal cavity and in which the pelvic viscera are lost. This exudate is hard, tender, and of uniform consistency. Rectal examination gives the same findings.

The temperature on admission was 103.4, the pulse 100. The blood showed 3,272,000 red cells, 54% Hgb, 22,000 white cells with 62% polynuclears, and 22% small mononuclears. The urine showed a faint trace of albumen, and a large number of white cells. The kidney function was 41%.

The diagnosis at that time was pelvic cellulitis of unknown origin and conservative measures were instituted. Two days later, the 28th, her temperature rose to 105.2 in the evening and her pulse to 130. On the 30th it had dropped to 101. There were several flare-ups during the following week, and on November 8th it was back to 101. That afternoon, during a rectal examination, the abscess ruptured through the rectum and a considerable amount of non-smelling pus was evacuated. The next day her temperature rose to 104.6 and ranged between there and 102 for 8 days, when it began to come down, and on November 15th it was 99.2. It immediately went up again and ranged between 99 and 103 for ten days. On November 25th we decided to drain the exudate, which had not changed since admission. This was followed by a three-day fall of temperature, but it again rose to 102, and it stayed between 100 and 103 until December 17th. The exudate gradually decreased in size during this time and it was thought that if we could get her out of bed she might improve faster. She did not do so well, however, her temperature rising at night to 102 and 103, and she was put back in bed. She went on this way until January 27th, when the exudate had almost entirely disappeared, and although her general condition was better her temperature continued to show a typical tuberculous curve.

On January 24th her blood showed 3,024,000 reds, 55% Hgb., and 11,000 whites, with 57% polys, 33% small mononuclears, and 10% large. She was having some abdominal pain, but examination showed nothing definite. On January 27th we opened the abdomen for exploration. The uterus, tubes, and ovaries were all matted together in a tuberculous mass and the parietal and visceral peritoneum were literally riddle with tubercules. There was no exudate. The wound was closed without disturbing anything. Her improvement after this was remarkable. She gained in strength and looked very much better. Ten days later, however, she began to have a temperature again, low at first, but increasing gradually to 101 at night, normal in the morning, with three upsets to 103. The exudate had almost entirely disappeared but the sinus in the cul-de-sac remained patent. She felt well and happy and on February 23rd was sent to the country for general tuberculous treatment. At no time during her stay in the hospital could medical consultants find any signs of a tuberculous process anywhere else.

Tuberculosis of the genital tract is, I think, well understood, but this patient presented an entirely different picture from anything that we had seen. The exudate felt exactly that of a puerperal cellulitis; it was larger than any collection of tuberculous material we had seen. I don't think there can be any doubt about the exudate being cellular in character rather than tubal, but it must have had its origin in the tubes. Its rapid disappearance after vaginal drainage is interesting.

DISCUSSION

Dr. H. M. Mills:

"We have all seen these cases of tubercular peritonitis. Sometimes the tube is involved. I have seen several cases where we found tubes studded with tubercles, and also the peritoneum, and we have opened these cases and closed them again. We always like to remove the focus of infection if we can. If we can get the tube out of this mass, if that is the principal underlying cause, we believe we help our patients. That, however, is not always possible, as the adhesions which are present are quite dense. I have had a number of cases of tubercular peritonitis which have been opened and the temperature subsided, and while I haven't been able to follow them, they improved during the time that they were under our care.

"I believe these cases are secondary to the lung and not primary to a large extent. We do know that simple section improves these cases very materially."

Dr. Herman Shann:

"I would like to ask Dr. Gibson if the sinus in the rectum healed as it usually does in non-tuberculous cases, and if there was any possibility of there having been some pelvic infection outside of the tubercular condition; that is, the ordinary pelvic infection."

Dr. Gordon Gibson:

"In reply to Dr. Shann's question, I would say that the patient still had the fistulous opening in the rectum, as well as the sinus which we made in the vagina for drainage. The thing hadn't healed. We were not able to discover any other source of infection or any evidence of gonorrhea clinically or microscopically in the smears, and we didn't get anything until we got this pus from the vaginal drainage. We found everything in the rectal fistula because it was contaminated with bacillus coli and everything else, but from the vaginal sinus we got nothing but pure cultures of bacillus proteus. That made us sure we had a tubercular condition.

"Dr. Mills was talking about tubercular peritonitis and tubercular salpingitis *per se,* I think. This didn't act like an ordinary tubercular salpingitis. Tubercular exudate fills the entire pelvis and extends high up to the umbilicus, but we were sure it was cellular and it acted like a cellular proposition and behaved like it after we got this drainage through the vagina. It felt for all the world like the old puerperal condition which we used to get in the old days.

"I am looking for information. Has anybody ever seen a tubercular process behave in the pelvis as this one did? Dr. Sherwood and I are in the same boat. We both have something nobody else has seen. We are looking for light."

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

All communications, books for review, etc., should be addressed to the Editor of this Department, 1313 Bedford Ave., Brooklyn, New York

November, 1922 2 Pages

Collected Papers of the Mayo Clinic

COLLECTED PAPERS OF THE MAYO CLINIC, ROCHESTER, MINNESOTA. Edited by Mrs. M. H. Mellish. Volume 13, 1921. Phila. and Lond., W. B. Saunders Co., 1922. 1318 pages, 392 illustrations. 8vo. Cloth, $12.00.

This volume is a storehouse of surgical and medical information and covers a wide range of subjects. The contributors are, as usual, largely men whose opinions and conclusions are based on unusual training and judgment that comes through great clinical experience. The papers are conveniently grouped under the following headings: alimentary tract; urogenital organs; ductless glands; blood; skin and syphilis; head, trunk and extremities; brain; spinal cord and nerves; technique; general. In the matter of treatment, the best results are based on careful statistical and "follow-up" study with great numbers of cases, have been emphasized. Frequently, too, reference is made, for comparison, to results and methods from other recognized clinics. Many fallacious ideas are discarded for facts. In a very practical way the relations between pathology and resulting symptomatology and their influence on treatment are pointed out. Throughout, the subject matter is augmented by drawings, illustrations, tables and microphotographs. The work should appeal to practitioners and investigators alike, since all phases, clinical and experimental, have been presented. Reference is facilitated by an index to contributors, bibliographic index, and index to subjects

Arthur Goetsch.

Surgical Clinics of North America

SURGICAL CLINICS OF NORTH AMERICA. Published bimonthly by The W. B. Saunders Company, Philadelphia and London. Vol. I, No. 6, December, 1921. New York Number. Paper (price per year), $12.00.

In the San Francisco number the subject matter has been entirely contributed by surgeons from San Francisco. A great variety of subjects are presented in an eminently practical way by clinicians and teachers well qualified. The information advanced is based for the most part on the individual experiences of the different contributors and is largely illustrated by case reports, photographs and drawings. The essentials of diagnosis, pathology and treatment are given definite, clear detail and needless, unnecessary descriptions and information have been omitted. All told, the reader receives a surprisingly great amount of surgical information in a limited amount of space.

Arthur Goetsch.

Race Decadence

RACE DECADENCE. An Examination of the Causes of Racial Degeneracy in the United States. By William S. Sadler, M. D., F. A. C. S. Chicago, A. C. McClurg & Co., 1922. 421 pages, illustrated. 12mo. Cloth, $1.50.

Pessimism is always a close follower of the "de-" (even the devil has become an apostle of light since his name was changed to Satan). One therefore is not surprised to have the author's caution appear in the very preface against reading his book through dark glasses. The whole of his appeal does not limit itself to this study anyway; for he purposes to write "future volumes" (!) dealing with race betterment. Decadence suggests death.

The emphasis is placed upon the racial aspect of the theme, because the individual's place and prospects have usually been made the chief subject of many investigations. A wide survey of physical processes showing, or at least presaging, the ultimate deterioration of the body of man, and the alarming conspicuousness of mental infirmities, in the mind of the writer of this study will make for a sensible apprehension of the way along which we are regressing, and give hope of a conversion to proper customs. After all, it is each man's attitude which predestinates a race. And one of the sure imperfections of a book like this one is its impossible personal appeal — that is, if it is intended for the general reader.

Dr. Sadler has gathered a mass of information for the student. It is a compendium from many sources. This is its only value. Rather full of words. The best part of it is a summary of each chapter. One can take it or leave it, as you please — "hulf's nichts, achadet's nichts."

A. F. E.

Symptoms of Visceral Disease

In this monograph the study of the vegetative nervous system and the related endocrine gland is taken up in considerable detail. The viscerogenic reflexes connected with the various organ are described, and many of the symptoms of visceral disease are explained on the basis of these connections. For inflammatory diseases of important viscera, the following classification of symptoms is suggested: (1) Symptom due to toxemia; (2) Symptoms due to reflex action; (3) Symptoms due to the disease process itself. The bulk of the book is occupied by the description of the sympathetic and parasympathetic reflexes referrable to each of the viscera and of the part which these reflexes play in the symptom-complex of the disease This monograph has both a scientific and a practical value. It will be read with profit by the surgeon and the internist alike.

Frederic Damrau.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgement of receipt has been made in this column.

HUGHES' PRACTICE OF MEDICINE Twelfth edition. By R. J. E. Scott, M.A. B.C.L., M.D. Philadelphia, P. Blakiston's Son & Co., 1922. 810 pages, with 63 illustrations. 8vo. Cloth, $4.00.

DISEASES OF THE THYROID GLAND By Arthur E. Hertzler, M.D., F.A.C.S. St Louis, C. V. Mosby Company, 1922. 245 pages, with 106 original illustrations. 8vo Cloth, $5.00.

PRINCIPLES AND PRACTICE OF X-RAY TECHNIC FOR DIAGNOSIS. By John A. Metzger, M.D. St. Louis, C. V. Mosby Company, 1922. 144 pages, with 61 illustrations. 8vo. Cloth, $2.75.

DISEASES OF THE SKIN. By Henry H Hazen, A.B., M.D. Second edition. St Louis, C. V. Mosby Company, 1922. 609 pages with 241 illustrations. 8vo. Cloth, $7.50.

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Delinquency and the Child; a Psychological Study of Crime and Mental Conflict

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ALL people behave differently, even in the same environment. Delinquency, like all conduct for that matter, is the result of the individual's reaction to a particular environment. The delinquency is a product of the individual's mental life. First there is the impulse or wish, then the idea, and then the act.

Crime is not a disease, nor can we dismiss it briefly with the statement that it shows atavism. According to the law, crime is an act that subjects the doer to punishment — the act being a serious offense against society. Cases of delinquency are not all alike; each one demands individual study.

Defectives are born. But there is no such thing as a born criminal, nor is there such a thing as an anthropological criminal type. In the case of defective delinquents, we are dealing with individuals who are mentally abnormal from the beginning, and who are criminals secondarily. Criminal tendencies are not inherited. This may be as difficult to prove as is the opposite contention. A causative relation of prenatal influences and delinquency is unproven. I will only discuss these defective types briefly, as they are incurable. I will talk chiefly about those cases which offer a more hopeful outlook.

Forms of Delinquency:

The most common forms of juvenile delinquency are temper, truancy, disobedience, lying, staying out all night, running away from home, vagrancy, destructiveness, arson, violence, and even homicide and stealing.

While throughout this article I will refer frequently to the influence of mental conflict in causing delinquency, one must not infer that that is the only cause. For example, stealing is by no means always the result of conflict, and probably not at all in the case of professional criminals. To them it offers, e. g., easy money, and the act furnishes exciting adventure. However, the importance of inner mental conflict as the determining cause of delinquency is highly important and must be studied carefully to understand many of these cases.

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* Read before the Brooklyn Neurological Society, Nov. 22, 1922.

I might say that pathological stealing is a better term than kleptomania — the latter wrongly implying a necessarily present mental disease. In pathological stealing, as opposed to professional stealing, the stealing is done for its own sake, rather than for the objects stolen. It may give no pleasure but rather may cause remorse. Again the stolen goods are often voluntarily returned later. We see this act performed frequently at the time of puberty, at the time of the menstrual periods, and at the onset of the menopause. It is often based on a need for excitement. Some men claim the act is always a displacement — the impulse springing from repressed sex feelings.

CAUSES OF DELINQUENCY:

While I will briefly mention all the important predisposing and exciting causes for delinquency, I will devote most attention to the most important factor — at least in favorable and curable cases — that of inner mental conflict.

Delinquency does not arrive by chance. While numerous factors enter into the individual case, usually one stands out as most important. If one merely looks at these cases in the conventional way and is content with a brief history of the case, he will understand few of them. And parents and others are apt to give too superficial an explanation for the wrong-doing. Most parents know little of the usual causes, and nothing at all of the inner mental difficulties of the child. Nor does the average parent understand anything about the relation of conflict to delinquency. Parents are often prone to make important facts out of mere incidents, and to indulge too much in generalizations.

In studying the causes, study them as dynamic factors, and not merely as individual facts. The mental and social causes are much more important than the physical.

PHYSICAL CAUSES:

Of course, a good physical status is a valuable beginning for any child. And any defects on the physical side must be corrected, if possible. However, only a limited number of cases can be cured by such means, if used alone. This applies also, to cases of endocrine imbalance. It must be admitted that the average routine physical examination in these cases brings out few useful facts. So one should never carelessly blame deliquency on some minor physical defect, where a little study would show the real cause to be a mental conflict.

If any physical defect is found, it must be determined whether it is causing weakness or irritation, for this is important.

The following on the physical side are probably the chief factors to discuss:

> The period of adolescence; general over or under-development of the child; noticeable defects as squint and stuttering; masturbation and genital irritation; the effects of alcohol and drugs.

An excess of physical vigor, especially in a stupid environment, may cause restlessness and delinquency. In the opposite direction, a person very inferior physically may feel socially inferior, and develop a general feeling of inferiority with bad after-effects.

Bad vision, squint, and stuttering are not only bad in themselves, but, as they may also arouse the jeers and teasing of school-fellows, they will cause shame, disgust, or antisocial feelings in the child. This often forms the basis of an inferiority complex.

The period of puberty and adolescence is usually a difficult one for all children. At this time, they are often romantic and idealistic, and also quite unstable emotionally, with poor self-control. Religious and erotic preoccupations are common at this time. And they are apt to develop all sorts of prejudices, aversions, etc. Autoeroticism is quite common at this period. Excitements are more common than depressions. The delinquencies at this time are more impulsive — contrasted with those of a later period, which are more deliberate. A too early onset of puberty may be dangerous in certain environments. Such over-developed young girls frequently have an excess of sex-consciousness. A boy or girl of 16 may be mature and strong physically. However, their mentality is by no means mature at this age. In some delinquent girls, the sex impulse may be so acute as to cause them to hallucinate. I might mention in passing that some girls have committed sex offenses out of resentment against certain home conditions.

That masturbation is a factor in delinquency is certain. There is no doubt that there is much nonsense and a lot of exaggeration written about the evils of this habit. It does not cause insanity *per se,* though the laity think otherwise. The greatest unrest seems to be where the habit is given up, and the desire for its repetition is intense. Cases of delinquency are not uncommon, where, when the habit is suppressed, persistent delinquency (stealing, etc.) results. The continued practice of the habit interferes with the development of a good moral tone. It may cause a feeling of inferiority and tend to make the child secretive. Irritability and fatigue are commonly complained of. It produces mental conflict and the child looks for artificial methods of stimulation for excitement — stealing, running away, etc. When practiced by the child in excess, it may cause mental dullness, and various neurasthenic syndromes, ideas of dying, etc., because of the conflict, and the amount of energy dissipated. Parents rarely can give you any information regarding this matter. Local genital disturbance may cause general irritability, but this is not usually a sufficient cause for masturbation, for the latter habit takes a long time to conquer, whereas the local disturbances are usually easy to correct.

I will only say a few words about the use of alcohol and drugs in these cases.

Alcohol is often an important causative factor in crime. In most cases the delinquency precedes the use of alcohol. But a psychopathic type is made worse by alcohol. Individuals react differently to it; one drink may do more harm to one person than a pint of alcohol would do to another. Small amounts of it might so injure a susceptible girl's moral tone as to result in sex transgressions, from which she would ordinarily refrain.

Morphine is taken for its soothing effects; alcohol and cocaine because they are stimulating. Some delinquents use all of them. Excessive use of coffee and tobacco may go with delinquency, but alone does not cause it.

Psychological Factors:

A careful personality study of each case is essential. Fundamental character traits are usually formed in the first five years of life. However, adjustments are needed at any age. A minute study of the child's inner life is as important as his relations with the family and the environment. Many parents fear that certain character traits peculiar to adolescence are permanent, which is not so.

There are certain characteristics which we frequently find in juvenile delinquents. For instance, lack of foresight, gregariousness (especially in cases of stealing), and lack of affection for relatives are common, as are secrecy and untruthfulness. Many of these children are skillful at filling in gaps in their stories. It is easy to see why vindictiveness, grudge, and revengefulness indicate a bad attitude, and why they keep a child unhappy. Stubbornness sometimes represents scorn against his own family. Idleness is a very bad trait. An abnormal craving for adventure favors delinquency, as may also, a great desire for attention and admiration. Disappointments and dissatisfaction with family life or beliefs are also factors. A dominating feeling of inferiority, from whatever cause, is bad. Such an individual may indulge in sex practices either to neutralize the feeling of irritability that goes with only partially repressed strong impulses, or to attract attention, or to compensate for the absence of other forms of pleasure. Stress from worry, sorrow, hardship, poverty, etc., has an abnormal effect on certain types of young people. Emotional outbursts are not uncommon in some self-centered young people, if certain strong desires of theirs are thwarted.

Such a combination as an infantile make-up with narcissism, discontent with the surroundings, and a strong desire to show power in some way, could very readily cause delinquency. Concerning the importance of mental conflict as a cause of delinquency, we will discuss more fully later.

We will next consider the family and the environment, and their relationship to the causation of delinquency.

A bad home-life is a very potent cause for misconduct. In a bad home, a child may see poverty, poor parental control, cruelty, or immodesty. He early becomes familiar with social disorder and even crime. Crowding in homes lessens moral and family respect. Some children are irritated because of the fact that parents do not rise socially with them. Some homes without good influences are, in truth, very depressing and irritating. This is especially true where one of the parents has unusual peculiarities, or even some mental defect or mental disease. It is not hard to understand why children from such homes develop an antisocial feeling. Some homes, while not positively bad, are negatively so, because the members have no general or special interests, and the home life is stupid.

Affection must be real, and not assumed. And there is no doubt that some parents show a lack of affection for their children. A child who gets no sympathy from that source where he expects much, may react with delinquent conduct — particularly if his relatives are unduly critical and irritating. Emotionally unstable parents usually have poor control over their children; their dysharmony is reflected in the conduct of their children.

Next in importance to the influences of a bad home environment is a bad social environment — companions on the street, in school, or at work. An older boy's hold on another may depend on secret sex knowledge which he has. A bad attitude on the part of a teacher combined with pushing the child too hard, favors delinquency in some children. This is even more true if the child has little or no time for play; or any pleasurable outlets. It must not be forgotten that play is the main part of the young child's life.

An unsatisfactory vocation is irritating to a youth. Bad literature is very harmful. Nowadays, the movies have supplanted the cheap novel as a source of mental excitement.

I have stressed environment rather than heredity for practical reasons. Environmental factors can often be easily changed; the personality traits can be moulded; but for the individual case, heredity cannot be reached. And to blame everything on heredity would leave little hope for help. One can see in what direction our best efforts should be employed.

MENTAL CONFLICT:

Misconduct due to conflict has this characteristic: it is not pleasurable and may cause remorse. In a case of stealing, the child will tell you he does not know why he does it. This form of conduct must be distinguished from criminal acts definitely motivated. Delinquents will frequently return the stolen articles later, showing the act was to appease the desire for excitement, and not to acquire the stolen articles. Students of delinquent children know that inner mental conflict can cause all sorts of delinquency, and so we must not limit our studies to outward circumstances. Misconduct does not arise by chance. The value of antecedent ideas must be estimated. The conflict depends on an emotional disturbance. In many cases — not all, of course — a study of the conflict is the best way to study the difficulty.

As a rule, delinquency due to mental conflict is seen in finer types; you would not expect to find it in morons, for obvious reasons. In fact, misconduct in a boy from a good home nearly always indicates mental conflict as the cause of delinquency.

A mental conflict will arise where a selfish, unethical wish is opposed to a social or moral obligation. To understand the relation of conflict to delinquency, one must understand the principle of mental repression, and the laws of the association of ideas. The association of one idea with another may be direct and easily seen, or indirect and very remote. For example, an association between sex and exhibitionism is very direct; between sex and stealing, remote.

The emotions are the driving forces of life; and persistently recurring emotions are often irresistible. As the philosopher Bergson says, "We desire and act with our whole past life." This is shown as impulse or tendency, and is expressed only in part in the form of ideas.

Certain ideas or acts provoke strong emotions; of these, those related to sex are very important. A great deal of the imagination of delinquents is about sex. The important thing is not the sex topic itself, but rather the strong emotion it arouses. The same explanation applies to antipathies to relatives, doubts (in adopted children) about parentage, etc. And remember that bad words can be as potent as experiences in provoking a conflict. It is a well-recognized psychological fact that secret sex knowledge in children can readily cause mental unrest. The conflict may result in excitement or depression. A lie from a high and respected source has a stronger emotional reaction than one from an indifferent source.

All of our memories are bound together by associations, every idea being related to numerous others. And as we all know, such associations do not have to be logical. It would be bad to say to a delinquent child that a girl who steals would do worse, for the remark promptly arouses troublesome associations in the child's mind. For similar reasons, the mother should not always be impressing on the child that the father is bad or no good. The following remark of a child is easily understood in the light of his association of ideas. "The bad things he told me made me think of stealing." In such cases, sex ideas and the first stealing (emotional experiences) are learned from the same source, or at the same time. Later, the child is tense and has a desire for excitement; he fights off the sex ideas and becomes irritable. By a process of association, stealing may stand for sex experiences. So in cases of delinquency due to conflict, the misconduct (stealing, running away from home, etc.) is more compatible with the child's ideals than giving in to the sex idea or transgression. This is especially true in a child from a good home. He represses the sex idea and expresses the delinquency. For one must not forget that one may repress an idea, but the energy persists. In these cases, the energy is displaced from the sex idea to the delinquency. True, the relation between these two elements of a complex is often disguised. Nevertheless, many boys realize that the stealing is in some way connected with an inner feeling of unrest, and may even recognize the sex basis for the unrest. In fact, one child says that when he fights away bad words, then he must steal. The misunderstanding of partially understood vicious words may cause much mental unrest in the child. As another child said, "I get a headache when I think of that word." Often a child will spell but will not repeat a bad word. In many cases, it is at the time of the repression of the sex impulse, that we see the onset of the delinquency. It is at this time that the conflict is evidently strong.

Inasmuch as decent ideas about sex are not learned at home, bad ones are learned from companions on the street and in school. It is easy to see why conflicts about sex are so common. There is nothing young people are so curious about — and nothing they are more ignorant about. For the good of society this sex impulse must be repressed and sublimated — but not annihilated. And yet, while the dictates of civilization strongly repress it, the habits and customs of modern civilization stimulate the impulse. In other words, society preaches well, but practices badly. Hence the difficulty for the individual.

When a child who steals says it is interesting, it shows the delinquency furnishes excitement for him. Some children sleep in halls or yards, hoping to see someone whom they like.

Besides the question of sex, another conflict is often over the question of parentage. Ruminations about who their real parents were, in the case of adopted children, may cause them to run away from a good home. Conflict concerning a step-parent or about parents who are separated, is often based on jealousy. It may result in delinquency. Dissatisfaction over family, race or religion may be the basis for a conflict. A lack of healthy interests (mental and physical) is the rule with most of these children.

Unlike adults, it is usually easy to get at the repressed material in children. Sometimes when a child forgets, it means that he is afraid of his thoughts. When a boy tells you that ideas "flash by," it means a partial failure of repression.

MENTAL DISEASES AND MENTAL DEFECTS:

Delinquency in later life may be one of the first evidences of insanity. However, insanity is not common in young children. But mental defectiveness is relatively common. There are certain mildly deteriorated cases of Dementia Praecox, who, though quite subnormal as judged by the standards of their social status, may appear fairly normal, measured by a lower standard. Genuine constitutional psychopaths not infrequently become delinquent at the time of puberty, and at the menstrual periods. You can do little with defective delinquents. They need constant supervision and are institutional cases. Many families would much prefer to admit delinquency in a child than either insanity or feeblemindedness. It might be mentioned here that tramps are nearly all abnormal, and many of them are genuinely psychotic. Most fugués may be classified as cases of Hysteria (mental conflict), Epilepsy, or Dementia Praecox.

Where the delinquency is one of violence, always eliminate Epileptic. However Lombroso's idea that the criminal is essentially an Epileptic is not true. Nor can we accept the sweeping generalization that Epilepsy represents repressed criminal ideas, and Hysteria repressed sex ideas.

In general it might be stated that cases of delinquency depending on certain forms of insanity, mental defect, constitutional psychopathic states, and Epilepsy are institutional cases. Do not confuse these cases with ones who are delinquent because of mental conflict. And one must not forget that bad habits and a poor physical status may cause a child to appear mentally defective who is really not so.

Mental defectiveness is one of the chief causes of delinquency. Needless to say, not all mental defectives are delinquent. Much of the menial work throughout the country is done by them.

It is doubtful if a real defective delinquent can be morally educated. Moral imbeciles are really mental defectives. The terms "moral insanity" and "moral imbecility" are of no real value, and are not employed in modern Psychiatry.

I think it might be well here to say a few words about psychometric tests. The most used one is the Binet-Simon test. As it does not get at the emotional life, it will not bring out the conflict. While it will help you to tell whether a patient is a moron or not, it will not tell you the cause of the child's delinquency. Again, the grade of native ability is of more importance than the year-rating of the child. And also, an individual may rate normal by the Binet-Simon test, and yet be subnormal for his age, as shown by his inability to do any constructive thinking or planning.

TREATMENT:

In these cases, the aims of treatment are to protect society, and to improve or cure the delinquent.

The aid of good social workers is invaluable to the physician in studying delinquents. Such workers must be sympathetic, and be able to get the child's confidence. A practical knowledge of child psychology is necessary in order to have a proper understanding of these cases, and to be able to direct the care of the children. For most of these cases are pure mental problems. Treatment, however, must not be one-sided, but in the individual case must be physical, mental, educational, and disciplinary, if necessary.

It is evident that unless you get at the real causes of the delinquency, proper treatment cannot be given. Study the present situation carefully. And keeping in mind the fact that mental conflict is one of the most important causes, go carefully into the child's worries, his worst early playmates, the origin of his sex knowledge, and the recurring ideas that bother him. Though the real cause may date back years, the child will often object to talking of earlier things, and will prefer to talk of the present. Particular attention must be paid to the onset of the delinquency for purposes of readjustment. Your study must not be limited to the personal factors, but must embrace the social aspect as well. Allowing a child to drift with the hope that time will work wonders, is a bad procedure.

Good hygienic living and proper nourishing food are required here, the same as in normal children. For the same reason, important physical defects should be corrected. Although by such means alone, you cannot promise a cure. An excess of physical energy — so common in children — must be met by giving the child suitable pleasant outlets in the form of play and work. The forms of pleasure prescribed must be innocent and not stimulating. Take into consideration the instability of the period of adolescence — when great changes of character are taking place. Consider the great amount of energy normal to these years, and the effect on the child if he has too few outlets. Remember also that at this time the inhibiting forces are none too well developed.

The child must learn to face the conflicts and transgressions frankly. A conflict can be attacked better when brought to light. It thus loses much of its power for harm. Also the child must learn to see the relation between his delinquency and the underlying conflict. Recent experiences are much easier to probe than older ones. Before a cure can be effected, re-education is necessary — particularly in correcting bad traits and trends. It is for this reason that you make a serious study of his personality make-up. These delinquents usually have a lack of healthy interests, mental, recreational, or vocational. They do not read enough good literature. Bad literature produces bad memory pictures. Visual memories are the most tenacious — hence bad movies, etc., can be very dangerous. As a rule, hard work, especially if pleasant, favors a good moral tone. All children must be given time to play. By furnishing the proper outlets, you will do more good than if you merely try to subdue the child by harsh treatment. In fact, this latter course nearly always fails. As to his mental content, teach him to have only good mental pictures. Improve as far as possible his social background, particularly in reference to his boy and girl companions; for good social contact is a good sign. Encouragement helps these children greatly; so develop their special abilities.

If a child is supersensitive, seek the cause. Needless to say, one must never get angry at one of these children, or he will lose his hold on them. Satisfy his doubts, and develop new attitudes in him.

Sex offenses must be approached in an objective, scientific way — not merely by injecting one's own feelings into the subject. Where sex is a factor, mere caution will not remove the danger. The repression of the idea does not dissipate the energy. Here again, socially approved outlets are very necessary.

It may be necessary, in order to protect the child from bad experiences, not only to change his environment, but even to take him from his home. If this is not done in some cases, failure of your efforts will result. In certain cases, a boy out on probation should not return to the same neighborhood. A short residence in the country may be helpful. You will meet parents who are not educated, and who can give you no aid. The home is the place where the desire for social esteem and the incentives for success should be nourished. One's ethical standards are determined by the sum of his previous social experiences. Help should be sought from the child's teachers. Often where a boy is very good in school, and bad at home, you will find that his delinquency is a reaction against an irascible or severely aggressive after. Backwardness in school may be due to the fact that other outside interests may be absorbing all his interests and energies. An immoral member of the family has a bad mental effect on the rest of the family.

Religion is of great help. But too many of these delinquents show a formal and not a genuine religious spirit. Not infrequently, their instability is shown by religious emotionalism and antisocial conduct at the same time.

Punishment is rarely needed in these cases. And reformation can never be the sole basis for any penal system. Jails and reformatories are usually bad for these children, particularly for cases due to mental conflict. The worst offenders teach the uninitiated all the bad things they know. And it goes without saying that short prison terms can neither frighten nor reform them. Small institutions, scientifically managed, furnish a stable environment, and are useful for certain cases.

PROGNOSIS:

The main point in prognosis is to determine whether the individual can be made socially adaptable. It is almost hopeless to try to cure defective delinquents in civil practice. Cases depending on mental conflict offer the best results, if properly managed. Much depends on the attitude of the child; whether he co-operates well or not; on environmental conditions; and the opportunities for the development of new interests. Young children are more plastic, and easier to mould; older ones are more difficult to manage, and also often exhibit some mental deterioration.

It is best if you can get these delinquents before their habits are fixed. It does not take long for an impulse to become an act; and for an act to become a habit. An act once done is prone to be repeated. Habitual delinquencies (personal or social) are usually difficult to cure.

There are other factors besides the one of habit, which may give the outlook a serious aspect, e. g., inaccessibility, stubbornness, and sullenness on the part of the child; failure of the child to adjust himself to his surroundings; absence of a helpful attitude on the part of the parents. It is hardly necessary to say that the bad influence of an alcoholic mother is even more destructive to family happiness than that of an alcoholic father. A habitually bad imaginary trend on the part of the child is also a bad factor For example, a girl with only one sex experience, yet withal, a good clean mind, will furnish a more salutary problem than one with no bad acts against her, but yet with a mind continually full of sex imaginations. A child with good powers of appreciation and good reasoning ability, and good foresight — which are all signs of a good mentality — should respond well to sympathetic treatment.

Delinquents who are able to talk well are often great trouble-makers, and can deceive certain people easily. For many people think that because a person can talk well, he or she must be normal. It is well known that mentally weak delinquents are most frequently arrested — not the shrewd, professional ones.

In closing, I wish to suggest that any student interested in this branch of medicine should read the inspiring works of Healy, from whose writings I have drawn freely.

Cosmetics—Their Use and Abuse

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COSMETOLOGY is the science of the proper care of the body with respect to cleanliness. A cosmetic is a remedy designed to improve or hide defects of the skin. It may be a white powder as starch, calcium carbonate, or zinc oxide, or these may be dissolved in alcohol and left upon the face after the evaporation of the solvent — or it may be a stimulant to the skin used internally, such as preparations of arsenic.

Cosmetics have been used from time immemorial and it is not the province of this paper to discuss their use, but rather their abuse, for the *excessive* use of cosmetics has reached a proportion that constitutes a National Menace, imperilling not only the complexions but ultimately the health of the growing generation. Mesdames DuBarry and Pompadour—former French beauties—used with apparent impunity a white lead enamel for three or four years, and then, with pock-marked faces and drawn skin damaged beyond repair, vanished from the scenes of their social triumph—their beauty a thing of the yesterday. The daily application of any chemical like that "clogs the pores," in the vernacular of the day, and leads ultimately to a dermatitis. The eyebrow pencil is made of lamp black and mutton tallow, and the hardening effect of the drying grease cracks the skin and shuts off circulation—the nutrition becomes impaired and eczema or acne result.

The craze for cosmetics has reached such a stage that fourteen year old school girls unable to purchase even the cheapest face powders that are sold at the five and ten cent stores apply clandestinely to their countenances crushed chalk that they have captured in the class room. Modern flapperism is a rebellion against restraint, a protest against parental control.

Are we as physicians, whose province it is not alone to cure but also to prevent, to look lightly at the future, fraught with peril as it is to the complexions and health of the growing generation, or is it our mission to sound the tocsin to temporizing parents and to emphasize to them and to the feminine members of their family, that rouge as a routine will ruin any complexion, and that no lips, however alluring, can survive the daily application of the lip stick? It is not too late —the harm that has been done is not irreparable. We have in our materia medica, remedies of great therapeutic value in the treatment of inflammations of the skin that are traceable to the abuse of cosmetics.

A few that I have found most useful—often acting almost miraculously in the 30th potency in cases apparently only mildly responsive to the lower dilutions, are Arsenicum alb., pre-eminent in all forms of eczema accompanied by intense burning of the skin indicated in the parchment-like appearance of the skin with the well-known characteristic of amelioration from heat: Arsenicum Brom in the facial acne of young girls: Graphites where there are the thick crusts, the dry skin, and the lack of perspiration: Petroleum where the skin is cracked and rough: Sulphur high—especially valuable in the sequellae of suppressed eruptions.

These are a few that I have found of paramount value and as a lotion. hot stupes containing boric acid and thymol, one to four, applied for ten minutes night and morning to the face. I find of greatest efficacy, particularly if there be itching, that calamine and zinc lotion prescribed so often by Dr. L. Duncan Bulkley. His formula follows:

Acid carbolic and pulv. calamine, of each 1 dram; zinc oxid, 2 drams; glycerine, 3 drams; aquae calcis, ½ ounce, and rose water, 4 ounces.

But diet and exercise and oxygen on the hoof are the *sine qua non* to a clear complexion. A close relation often exists between functional disturbances in the internal organs and cutaneous disorders, as it should be remembered that the skin is a great emunctory, and blocking up by cosmetics that are not thoroughly washed off at night is certain to be followed by internal derangement.

There is more acne and more facial eczema among young girls than ever before. and this is directly traceable to the toxic effects of chemical absorption. due to the daily use of cosmetics. Such a variety of these are manufactured — some *distinctly dangerous,* the cheaper substitutes. of course, falling into this category, that we as a nation are facing the possibility of a class complexion. A possibility like that should appeal to our national conscience. There is nothing stronger than the appeal of conscience. The old rhyme reads:

King Solomon and King David led very merry lives.
Each had three hundred concubines and twice as many wives.
But as the years rolled on apace their consciences had qualms.
King Solomon wrote the Proverbs and King David wrote the Psalms.

And in closing I would say that if there are any of the feminin members of our profession who have been tempted by the frailties of the frivolous, who have furtively furbished a complexion colored by other than the cosmetic of nature, who have frescoed or camouflaged, who have failed to properly evaluate the wrinkles that toil and responsibility have stamped upon countenances that have cheered the sick room, far be it from me to censure nor yet to condone; but I don't think there are any such, for I have never seen any, but if there ever should be any, in the mutations of an inscrutable Providence which heaven forfend, then and then only would I feel justified in forgetting that I was a fellow member of a profession—the highest of all chosen callings—whose mission it is to heal the sick, and to imagine, fondly imagine, that I was a long-haired poet, and then, under those conditions, I might be pardoned if I indulged in a reverie.

The Reverie of An Old Fossil

O, for the girl of the "old-time days" — the girl that we used to know,
Whose cheeks were colored by nature, and not by the chemist's glow.
Who never heard of a "lip-stick," but whose lips were soft and sweet,
And who didn't pencil her eyebrows, and who didn't "golosh" her feet.
Who didn't go to the movies, who gave not a hoot to please,
And who went to church on Sundays, and her skirts weren't up to her knees.
Her hat wasn't worn at an angle, but she knew how to broil a steak,
And she didn't wear "fuzzy stockings," but you ought to have sampled her cake!
O, for the girl of the old-time days! She'd have what she deserves.
For we've laughed long enough at the flappers, and they're getting on our nerves.
For Sincerity's test of women is whether they're going to last.
So here's to the girl of the future, may she be like the girl of the past.

Intubation in Laryngeal Stenosis

Charles W. Berry, M.D.
Brooklyn, New York

LARYNGEAL STENOSIS due to membranous croup is still rather common at the present time, notwithstanding the almost universal use of diphtheria antitoxin. This is probably due to an insidious onset, as a slight cold or hoarseness, and an absence of any history of exposure to diphtheria.

Many cases that come under observation have not been recognized as laryngeal diphtheria until serious dyspnea has set in, and the fact established beyond a doubt, that unless prompt means were taken to furnish a supply of air, there would be a fatal termination of the case.

Since the day of O'Dwyer, nothing better has been devised for the relief of this kind of dyspnea than his intubating tubes in the hands of one trained in their use.

The fact that the toxins elaborated, as a result of the life processes of the diphtheria bacilli, seem to be absorbed more slowly from the larynx, than from mucous membranes of other parts of the body, often proves a life saver in the cases where the trouble is not recognized, and use of antitoxin is delayed until the fourth or fifth day of the disease.

There seems to be a prevailing impression that laryngeal stenosis needing intubation can only be treated in a hospital whose staff are skilled in such procedure, and where special nursing care is available.

The reasons given for this are:

The danger of coughing up the tube, and perhaps a need for immediate replacement.

The difficulties of feeding children with a tube in the larynx.

The careful attention and nursing skill required in the care of such cases.

The need of restraint when a cord is left attached to the tube.

The fact that occasionally one meets with a patient in whom extubation is followed by severe dyspnea, and the tube has to be kept in place for long periods of time while treatment is being carried on.

My case records shown so many exceptions to these difficulties, that it is a temptation to believe that they only exist in isolated instances, if at all.

When a tube rather small for the child is selected, it is usually expelled during the first hard coughing attack that comes on after intubation, sometimes accompanied with considerable membrane and often with temporary relief from dyspnea. When a tube of suitable size is used, it is more likely to remain in place until a few days later when the membrane has been absorbed under the influence of antitoxin and the tube is then expelled, and usually under such circumstances it is no longer needed, or it may be removed by the operator after about a week.

In nearly all cases when the tube has been coughed out under such circumstances, if the dyspnea returns it does so very gradually, giving abundant opportunity for replacement.

The difficulty of feeding children with a tube in the larynx seems more theory than actual experience. I was taught that the child must be fed with its head low down, or hanging over the side of the bed so that food would not enter the tube, but children seem to get along very well in any position, and to eat or drink anything after they become accustomed to the situation. I have seen intubated children sit up in their cribs and drink water, eat crackers, and feed themselves almost any kind of liquid or solid food without choking or any apparent difficulty, the epiglottis evidently closing over the tube as in the normal condition.

The nursing skill need not exceed that required in any child that is seriously ill. Many cases did not have the advantage of a nurse at all, but were cared for by the members of their families.

Restraint, beyond keeping the child in bed, is not necessary, except as may be needed for the diphtheria. After the child has been intubated and the fact established that the tube is in proper place, and is likely to remain so, the string attached to it should be removed, as its presence in the mouth excites much coughing and choking, and there is no real need for its presence. With this out of the way the child cannot do anything with its hands that would call for any interference. My own custom is to remove the mouth gag as soon as the tube is in place, and then wait for a few moments so that the little one may rest and get its breath, still leaving it wrapped up in the sheet. After a few minutes the gag is reinserted, and the proper position of the tube assured by digital examination, then the string is cut, and with one finger on the tube to keep it in place, the cord is gently pulled out entirely, leaving the tube in the larynx. In the case of infants a severe coughing spell may cause the expulsion of the tube, which in such a case is usually swallowed. If the attendant is warned of this no harm will result, and with proper precautions the tube will be recovered in the stools in a few days. Most of my smaller sizes of tubes have passed through intestinal tracts many times.

Occasionally we find on removing a tube that it must be replaced to relieve a sharp attack of dyspnea. This may occur several times and eventually result in a so-called retained tube case requiring special treatment. It is customary after removing a tube for the operator to remain with the patient for an hour or so to be sure that it can be left out. Precautions are also taken by the advance use of sedatives to allay laryngeal irritation as much as possible.

One of the disadvantages of institutional care of these cases is the fact that a contagious disease hospital is the only one that can take them, and the patients are liable to contract other infections while convalescing from their own trouble. One patient ran through scarlatina and pertussis before she was discharged, for which the family physician was criticized without regard to the justice of the charge.

No great difficulty has been experienced with the voice after intubation. Some children speak in a loud whisper with the tube in place, and in other cases this whispering voice has lasted a week or so after extubation, but in no case have I seen any permanent impairment.

Some of the cases were intubated prone, others in the sitting position, the recumbent method perhaps being the safer.

The amount of antitoxin used varied; in most cases it was regulated by the amount that could be obtained at once. If a choice could be made at least 10,000 units should be given. All injections were intra-muscular for two reasons, the fact that absorption of toxins is slow in laryngeal diphtheria, and the difficulties of intravenous medication in children.

In submitting the histories of the last ten cases of intubation occurring in my files for the purpose of showing how these patients progress, I realize, of course, that hard and fast conclusions should not be arrived at from such a small number of reports, still they are a good average sample of this class of patients as they have come under my observation.

Case 1. R. S. (male), age 14 months.

Ill four days, fever, headache, and laryngeal cough. When seen with attending physician on the fourth day was in extremity, and apparently dying when we entered the room. Child was blue and moribund and tube was inserted without restraint of any kind. Artificial respiration was instituted, and in about five minutes he commenced to breathe once more and rested very comfortably. Five thousand units of antitoxin were given intra-muscularly. On the following day his mother allowed him to sit up in a high chair and he ate a cup of custard, feeding himself. A few hours later he had a severe attack of coughing and expelled the tube, which was again reinserted as promptly as possible. No visible membrane was present and culture was not taken. The case was cared for by the mother and the family physician. He died suddenly the next day of what was diagnosed as heart paralysis following diphtheria.

Case 2. W. W. (male), age 6 years.

Ill three days, fever, croupy cough, sore throat, later developed dyspnea.

Seen with attending physician on third day of illness, child was having great difficulty in obtaining air. The supra-clavicular spaces and lower part of chest retracted deeply with each inspiration. Face was pale, lips and finger tips cyanotic.

A tube was introduced at once, and later 8,000 units of antitoxin were given intramuscularly. No culture was taken. Child was cared for by mother and family physician. Recovery was uneventful. Tube was removed on seventh day after insertion.

Diagnosis — Membranous Croup.

Case 3. W. T. (male), age 7 years.

Ill two days, fever, sore throat, pain in chest and head, considerable dyspnea, retraction of chest and spaces above clavicle with each inspiration, forehead covered with sweat, and lips and finger tips cyanotic.

Was intubated and given 5,000 units of antitoxin intramuscularly. Child was cared for by mother and seen by myself once a day for a week. Tube was then removed and case discharged. There was no return of dyspnea and no difficulty in feeding. Treatment consisted in keeping patient in bed, with usual nursing hygiene as far as it could be carried out with untrained assistance. Feeding was restricted to simple articles of food as milk and cereals, later eggs, custards, broths, etc., with proper intervals observed between meals. No stimulation or medication was used or needed. Bowels were moved once a day by enema or laxative as indicated. There were no after complications and patient seemed normal in every way.

Diagnosis — Membranous Croup. Culture from throat positive.

Case 4. (Male), age 8 years.

Ill two days with fever and sore throat. Uvula and tonsils covered with membrane. Culture positive for diphtheria. Attending physician had administered 3,000 units of antitoxin. Severe dyspnea developed second day of illness. Was intubated and coughed out tube a few minutes later with a complete membranous cast of the larynx. Dyspnea was much relieved and tube was not reinserted. Child recovered completely and was discharged a week later. Was attended during illness by family physician and mother.

Case 5. T. K. (male) 6 years.

Ill four days, fever, croupy cough, vomiting and sore throat. Examination showed tonsils covered with a yellow white membrane, which gave a positive culture for diphtheria. Voice had been husky for the preceding twenty-four hours. There was considerable dyspnea, and stridulous breathing, an anxious face, retraction of supraclavicular spaces and lower part of chest, lips and finger tips were blue. Child was promptly intubated and given 5,000 units of antitoxin. Was seen once a day for a short time by myself and had nursing care by members of the family. Tube was coughed out on the fourth day and there was no return of the dyspnea. Recovery was prompt and uneventful.

Case 6. I. B. (female), age 9 months.

Has made a peculiar noise on inspiration since two weeks old, sometimes is better, but gets worse when excited or crying. At times dyspnea is rather severe and child becomes cyanotic. Is a well-nourished breast fed baby weighing 15 lbs. Has been treated for cough, etc., by expectorant mixtures. A few days ago stridor became more pronounced and child was cyanotic except when very quiet or asleep.

Examination showed diminished breathing, more marked on left side, and some sibilant rales. There was no history of any choking accidents and no temperature. Digital examination of pharynx was negative, and there was nothing to be seen on inspection.

A provisional diagnosis of an infantile form of larynx with diminished calibre, and perhaps some laryngeal spasm, was made. For a time she seemed much improved under the influence of anti-spasmodics (Esterol half grain every 3 or 4 hours). After an unusually severe attack of dyspnea the little one was sent to the children's ward of a general hospital for special examination and treatment. Here she was intubated on account of the dyspnea, and it was proposed to treat her by the introduction of tubes of gradually increasing calibre in an effort to cure the condition.

The case was under constant observation of the throat specialist, the two internes on service, and two special nurses, and was nourished by breast and supplementary feedings which were well taken.

The child was very restless on account of arms being restrained as cord was left attached to the tube and fastened to the cheek with adhesive plaster.

Unfortunately, in a coughing attack, the tube was expelled one morning, and the child died before it could be replaced, although the operator was reached in about twenty minutes, and an emergency tracheotomy was performed.

Case 7. M. K. (female), age 3 years.

Had been ill one day with slight fever, headache, and croupy cough, with some dyspnea. Family physician had administered 5,000 units of antitoxin, and an emetic which caused vomiting. No membrane was visible, and no culture was taken.

When seen child was suffering for air, chest and supraclavicular spaces sunk in with each inspiration, face was leaden, and lips blue. Child was intubated with relief of dyspnea, tube was coughed out before operator left, and after waiting awhile as the dyspnea did not return the tube was not replaced. Child made an uneventful recovery under care of the family physician and mother.

Case 8. E. S. (female) 4 years old.

Seen with attending physician as a case of laryngeal stenosis following broncho pneumonia. Child had been ill about two weeks. Membrane appeared in throat which, on culture, proved to be true diphtheria. Five thousand units of antitoxin had been given.

Extreme dyspnea was present, with the usual picture of pallid bluish countenance, and retraction of the supra sternal spaces, and lower part of chest with each inspiration.

Case was intubated with some difficulty, and 10,000 units of antitoxin given intramuscularly. On account of the difficulty in introducing the tube a smaller size than called for by the child's age was used (three year size). About five minutes after introduction tube was coughed out with some membrane and bloody mucous, and considerable relief of the dyspnea, although chest still retracted slightly with each inspiration. It was decided to hold the tube out as long as possible in the hope that it could be dispensed with.

At 3:00 a. m. the following morning the dyspnea became suddenly worse, and a hurried call was sent out for aid. Tube 4-5 year size was introduced with child in extremity, and death apparently took place before tube could be introduced. The intubation was easy under these circumstances and with no prolonged effort. Patient was laid on the bed, to all appearances lifeless, and artificial respiration started. Respiration was resumed after a few moments, and in five minutes child was in good condition and very comfortable.

Everything went on well for four days, when, at the request of the attending physician, extubation was done, giving a full dose of codeine an hour before the operation. Dyspnea returned again three days later and became so severe that intubation had to be again resorted to with relief of all symptoms. Tube was removed once more on the third day following, again the dyspnea returned, this time the following day, and tube was reinserted.

Two days later a consultation with the attending physician and a throat specialist was held. Laryngoscope showed the tube in proper position. Extubation was performed and interior of larynx viewed plainly. The mucus membrane was red and inflamed, but no abrasions, traumatism or edema of interior could be made out. Tube was not replaced in the hope that it could be dispensed with, but had to be returned three hours later on account of a gradually increasing dyspnea.

Tube was then left in place for fifteen days, during which period child was perfectly well and comfortable, played as usual, was up and around every day, and learned to talk fairly well.

When extubation was again decided on the following procedure was carried out: Esterol gr. 2 was given every two hours for a few doses before the operation, and then continued for a week, the intervals being gradually increased until the drug was only used once a day, when it was discontinued. Hot compresses were also applied to the larynx for the first two days after the removal of the tube. Child made a good recovery with unimpaired voice, and no stridor. The patient was cared for by a trained nurse and the family physician during the illness.

CASE 9. (Female) 7 years old.

Had been ill five days, and with symptoms of croup last two days. There was some membrane on right tonsil with positive culture, and patient had received 3,000 units of antitoxin.

I arrived before the doctor in charge of the case, and found the child suffering from extreme dyspnea; she was sitting up in bed, resting on elbows, with labored breathing, forehead covered with cold sweat, lips and finger tips blue. Fearing the child would die before the family physician arrived, a proper size tube was introduced with instant relief. This was retained four days, then was coughed out, and did not have to be replaced.

Patient made a good recovery under the care of the family physician and the mother.

CASE 10. E. M. (female) 2½ years.

Had been away to the country and brought home with what seemed a slight cold; this became croupy and a physician was called who treated her for four days. As the dyspnea continued to increase and signs of laryngeal stenosis became marked, he urged her removal to a hospital for intubation and proper treatment. This the parents refused, and I saw the child a few hours later. She was sitting up in bed, fighting for air, face leaden color, cold and clammy, lips and finger tips blue and cyanotic.

Patient was intubated at once, and 10,000 units of antitoxin given intramuscularly. A practical nurse was obtained and the child put to bed. She was a hard patient to manage, fighting every attempt made to feed or give her proper care, although she learned to feed herself after a few days.

Tube was taken out on the fourth day but had to be reinserted after a few minutes as the dyspnea returned very suddenly. Three days later she was again extubated after using a sedative (codeine and esterol) to such an extent that she slept up to the moment that she was wrapped up in a sheet, and went to sleep immediately after the operation. The tube was only out about fifteen minutes before extreme dyspnea returned, and it had to be hurriedly reinserted.

A tube a size larger in calibre, but the same length as the one in use, was prepared with the idea of gradually overcoming the stenosis by introducing tubes of increasing calibre from time to time. Before this could be done, however, she coughed up the tube on the eighteenth day, and beyond a laryngeal cough, a husky whispering voice, and a little retraction of the space above the sternum, during inspiration, she seemed very comfortable.

There was slight dyspnea at times for two days and a croupy cough, which gradually improved. Two weeks after the tube was expelled, I again saw the child for a gradually increasing dyspnea. Nothing was found on examination excepting the fact that during excitement the little one had considerable difficulty in breathing.

This dyspnea gradually increased for two days, when a laryngoscopic examination was made which disclosed a subglottic larangitis. The lumen of the larynx below the vocal cords being closed to pinhole size. An intubation tube was introduced and then withdrawn. This caused a slight hemorrhage and relief of the dyspnea. For safety the tube was again inserted and left in place and the child sent to a hospital for special treatment. This little one was at first taken care of by a practical nurse, and seen by myself every three or four days, later the nurse was dispensed with on account of not being able to manage the child and her mother cared for her during the balance of the illness.

In conclusion, we might state:

Cases requiring intubation can be taken care of in their own home, as in any serious illness.

In croup cases it is well to remember that membranous croup is a progressive affair with three rather marked stages, namely:

1. Cough and hoarseness. 2. Aphonia and dyspnea. 3. Suffocation and asphyxia. (Do not wait for this stage for intubation.)

An early use of antitoxin in any croup case is harmless, and may save much future trouble.

All cases of laryngeal stenosis are not due to membranous croup. There is no other procedure in medicine which gives such gratifying results, as intubation in the dyspnea caused by laryngeal stenosis.

EDITORIAL

Drug Habituation

AN INTERESTING sidelight is cast on the narcotic situation by the action of the Board of Health of New York City, which, on October 11, added to the sanitary code an amendment forbidding the sale at retail of "Veronal, Luminal, Sukphenal, Trional, Tetronal, or any of their salts or compounds except upon the written prescription of a duly licensed physician." The attitude of those who have been endeavoring to mitigate the evils of the opium habit seem to have been based upon the assumption that the growth of drug addiction was largely due to physicians who have been openly accused in the writer's hearing of recklessness in the use of narcotics. Now the Board of Health, apparently moved by several attempts at suicide by the use of hypnotics and recognizing the popular abuse of this type of drug, have turned to the medical profession to check the growing menace. Physicians know better than anyone else how difficult it is to impress the ordinary man or woman with the dangers of self-drugging. It is no unusual experience for one woman to advise another, in the actual presence of a physician, to take this, that or the other hypnotic or synthetic product, apparently oblivious of the discourtesy (to put it mildly) of which she is guilty. It is just this human self-sufficiency which underlies the whole question and which makes the regulation of the drug traffic difficult. Physicians recognize the distressing by-effects of all medication although some are more painstaking in their application of their knowledge than others; but, as a matter of fact, under a government as inadequate as ours, which reflects on the one hand the caprice of the mob, and on the other the selfishness of the individual, it is well-nigh impossible to obtain logical and concerted action, because little can be done to hinder widespread exploitation by the manufacturer who is jealous of his profits or self-abuse by the individual who is equally tenacious of his right to do as he pleases. Our most drastic legislation is therefore largely a hodgepodge of compromises which offers almost as much of a barrier to shrewd law-breakers as a hedge does against mosquitos. Effective legislation must strike deeper than restrictive ordinances. Of what use is it to forbid a druggist to sell Veronal at retail in New York when one can buy it without restriction in New Jersey? While one may rightly deprecate, he will not wholly blame the druggist who is striving to make his business profitable so long as the manufacturer may make and advertise his product without restraint. It may be well to repeat what has already been suggested in these pages.

First, no âdequate figures are available showing the normal consumption of drugs of any class.

Second, it is well within the police power of the State to forbid the importation and the manufacture of narcotic drugs beyond what constitutes normal requirement.

Third, centralized control is a *sine qua non.*

It seems obvious that morphine, for example, manufactured in excess of professional requirement, must remain on the manufacturer's hands as a loss or be disposed of for questionable uses. (And it is surely fully as immoral to export it to debauch the Chinese as to distribute it through underground channels to habitues at home.)

Such government restriction is open to several objections, none of which are insurmountable, however. The entire question could be settled definitely and in a short time, were it approached courageously; and one of the first essentials is to recognize that the manufacturers of narcotic-containing nostrums must be dealt with summarily because they have, by demanding special exemptions in the past, been a stumbling block in the way of efficient legislation. The proof of this statement lies in the well-known fact that every regulation of the use of narcotic drugs has definitely exempted preparations containing less than specified amounts of morphine, heroin, and similar drugs. The result has been to handicap the physician without interfering with the sale of nostrums.

H. G. W.

Health Department Activities

THE Health Department Bulletin for November 11th contains two items of very general interest: a preliminary report on the efficacy of whooping-cough vaccine and notice of the obligatory distribution by physicians of pamphlets on gonorrhea and syphilis to patients under treatment for these diseases.

Ever since the Bordet bacillus cultures were introduced as having specific value in both preventing and relieving pertussis there has been a great diversity of opinion on the subject. While most observers have felt that there was possibly some prophylactic value, especially in large repeated doses of a combined vaccine, many careful clinicians have maintained that the curative effects were nil and that where benefit seemed to accrue it was fully as likely to have resulted from spontaneous recession of the disease. The committee, consisting of Doctors Blumenthal, Wilson, Harris and Park, report that they desire to defer any comment on the preventive value of the vaccine until the results of a special study of the subject now under way may be analyzed. Their recommendation on its therapeutic value, quoted in full, is interesting. They say, "As to the therapeutic value of pertussis vaccine, it is the judgment of the committee that it seems to be a symptomatic remedy which has appeared to have some value in abating the severity and frequency of the paroxysms. Whether the good results attributed to whooping-cough vaccine are due to a non-specific protein reaction is a question which cannot be answered at this time. In all events, the favorable judgment of the value of whooping-cough vaccine in symptomatic treatment of whooping-cough, which has been recorded by a number of clinicians, warrants us to encourage the continued trial of whooping-cough vaccine in the treatment of pertussis, especially since the treatment is harmless." Was it not Hippocrates who warned against using treatment that was only harmless? When it comes to purely clinical testimony, one is reminded of the back-country justice who discharged the prisoner because, while one reputable witness had seen him steal the chicken, twelve equally reputable citizens testified that they had not! And surely, quoth his honor, the testimony of twelve outweighs that of one! If all clinicians agree that pertussis vaccine usually seems of benefit, or if most clinicians say that it often is helpful, then by all means recommend it. But if a goodly number of reputable observers are honestly unable to say whether it helps or not, then the weight of evidence is against the method, even if it is harmless. One is distinctly disappointed in a report that is so inconclusive and which yet tries to straddle so obviously.

It will come as a distinct surprise to many physicians that they are obliged by law to distribute circulars giving advice about gonorrhea and syphilis to all cases which they are treating. The Health Department states that it has on hand a supply of these pamphlets which it will distribute to patients attending its clinics, to private physicians and to hospitals, but it does not state how the distribution will be made. Must we call for them? Or will they be distributed in course of time? While it is one more detail to remember and so is an added burden in the already voluminous code of sanitary regulations, there are certain advantages that seem worth while. These pamphlets have been revised by five men representing the best that we have in venereal prophylaxis and treatment. That means that if one follows the plan outlined, there is uniformity of treatment and consistent follow-up advice, a great gain for the patient and a long step toward raising the standard of professional care, for it will compel the careless and inadequate, of whom there are too many, to fall into step or else fall out. It will in time educate the public to demand better methods than the slipshod ones followed by careless or improperly trained practitioners and will go far to eliminate the charlatans who still thrive in spite of all that has been done to rid the city of them. And it will help to educate the coming generation along sanitary and moral lines so that in time the total number of infections will materially diminish. If the authoritative statements of these pamphlets do nothing else they will make it necessary for those practitioners who are always prone to substitute their own unproven theories for established fact to use greater moderation in proclaiming their views by compelling them to deal with enlightened patients. While many will declaim against what they will regard as an invasion of their rights by the Health Department, the public gain will far outweigh any personal considerations.

H. G. W.

CORRESPONDENCE

102 Hanson Place,
Brooklyn-New York,
November 2nd, 1922.

The Editor, Long Island Medical Journal,
Brooklyn, New York.

Dear Dr. Webster:

The Brooklyn Pediatric Society, encouraged by the success attending its efforts to popularize the use of diphtheria toxin-antitoxin, has turned its attention to a consideration of ways and means of increasing interest in breast feeding. A committee has been appointed whose function it is to study what has already been done elsewhere, and then to lay out a plan of action for use here. While there is no question that the wonderful work of Sedgwick and Huenekens in making breast feeding almost universal in Minneapolis has set a standard as well as a definite line of procedure for such another campaign anywhere, it is realized that no plan can be taken over bodily from one community and used without modification in another.

The extraordinary results attained in Minneapolis have been based upon three factors. The first is the fact that at least five bottle babies die to one breast baby who dies. The second is the firm belief that every mother can nurse her baby, if she is given help and guidance. The third is a definite plan of campaign whereby the mother of every baby born within their city is made acquainted with this fact and this well-founded belief; and is given the necessary help and guidance by a medical profession which has been awakened to the importance of the maintenance of this very ordinary and commonplace function.

Three co-operating agencies have virtually brought about the elimination of artificial feeding from Minneapolis. (a) The City Health Department notifies (b) the Infant Welfare Society of the receipt of every birth certificate that comes in. The nurses of this organization, guided by (c) a body of medical men who have made themselves experts in the technique of breast feeding, circularize and visit the mothers of all of these babies, and, under the direction of their own physicians, teach them how to empty the breast after each feeding. Wherever the amount of milk secreted falls temporarily below the amount needed, complementary feedings are prescribed, to compensate for the deficiency.

A preliminary report to the Society from the Breast Feeding Committee will appear in these pages next month. Meanwhile it is hoped that anyone with suggestions or experience along this line, or a willingness to be counted on to help in such a campaign, will consider it his duty to communicate with the Committee, addressing letter to "The Brooklyn Pediatric Society," Library Building, 1313 Bedford Avenue, Brooklyn, New York.

The Committee feels strongly that the efforts of The Brooklyn Pediatric Society along this, as well as all other lines, should not be limited to Brooklyn, but should cover the whole area which it serves—namely, all Long Island. It is hoped that an interest in the more general and widespread employment of breast feeding may be aroused and a serious study be inaugurated of the possibilities, as well as of the means, of establishing, maintaining, and (where necessary) re-establishing breast feeding, throughout this whole area.

The Committee on Breast Feeding of the
Brooklyn Pediatric Society.
Frank Howard Richardson, M.D., Chairman.

Society Transactions

A Special Meeting of the Medical Society of the County of Kings, October 7, 1922

A special meeting of the Medical Society of the County of Kings was held on Saturday, October 7th, 1922, at 8:45 p. m. to commemorate the centennial of the founding of the Society.

The meeting was under the direction of its President, Dr. Frank D. Jennings, and there were about 300 members and friends present.

PROGRAM

Invocation	*Rev. Alexander Lyons, Ph.D.*
Reading of The Minutes of The First Meetings of The Society	*Lewis P. Addoms, M.D.*
Music	*Vocal Solo*
Address	*Hon. Royal S. Copeland, M.D.*
Address	*Hon. Luke D. Stapleton, LL.D.*
Address	*Nicholas Murray Butler, LL.D.*
Benediction	*Rev. John F. Carson, D.D., LL.D.*

Lantern slides of the early meeting places of the Society, and of its later holdings, were shown to indicate the progress of the Society during its first hundred years.

After Dr. Butler had finished, at the request of the Chair, the members of the Society arose and remained standing for one minute, as a tribute of respect and affection for those who had passed on during the five score years of the Society's life.

The meeting adjourned at 10:45 p. m.

Lewis P. Addoms, *Secretary.*

Dr. Frank D. Jennings, President

Members of The Medical Society of the County of Kings,
Guests and Friends:

We have assembled here tonight for the purpose of marking in this manner and commemorating the centennial of the founding of this Society which occurred April 8th, 1822.

Your presence in the face of such adverse weather, is but another evidence of the warmheartedness and staunch loyalty of the membership of this great Society.

The program will be opened by an Invocation by the Rev. Alexander Lyons.

Rev. Alexander Lyons, Ph.D.

Our Heavenly Father, Thou are the Supreme Physician! We turn unto Thee this festive hour to acknowledge that whatever we are and whatever we accomplish that is good can be traced in some way to its source in Thy Fatherly love. We are grateful for the memories and achievements that are celebrated by this hour in the recollection of those men of courage, of skill and of vision, who, building better than they knew, have so enriched us that we are enabled, taking up the achievements of the past, to carry them to greater attainments of the future. We are thankful for our splendid heritage. Grant that it may be an inspiration to the attainment of nobler realizations. We are grateful for the service of the men who always served far better than is yet realized or appreciated; and may we take up the inheritance they have left us, inspired by the memory of what they attempted and accomplished, always so to live in our devotion to our duty, that we may be as deserving of them as we hope those who succeed us shall be worthy of us.

Cause Thy blessing to rest upon this body here assembled, upon this organization, upon its splendid efforts and aspirations to serve our fellow-men whereby they can best serve Thee! Influence our ambitions so that they shall redound to our dignity through our devotion to duty. And may we not only receive Thy gifts, but always strive with faithfulness to what we believe to be true, to deserve more and more of the blessings of Thy Fatherly love! Amen!

The minutes of the first three meetings of the Society will be read by our present Secretary, Dr. Lewis P. Addoms.

During the reading of the minutes by Dr. Addoms, lantern slides were shown of the first three meeting places—the home of Dr. Adrian Vanderveer, and his picture; the Washington Inn, or Auld Lang Syne Tavern; and the Van Buren Tavern.

At the conclusion of the reading of the minutes, slides were shown of the cornerstone of the Apprentices Library, where the Society met from 1827 to 1836; the Brooklyn Lyceum, later the Brooklyn Institute; the Old Home at 356 Bridge Street; the present Library Building; the new property acquired in 1922; and finally, of Dr. George MacNaughton, for whom the Auditorium is named.

MINUTES OF MEETING HELD FEBRUARY 25th, 1822

A number of the physicians of the County of Kings met in the village of Flatbush, at the home of Adrian Vanderveer, on Monday, the 25th of February, 1822, pursuant to previous notice. Present: Drs. Charles Ball, Matthew Wendell, John Carpenter, William D. Creed, Francis H. Dubois and Adrian Vanderveer.

Dr. Ball was called to the Chair and Adrian Vanderveer chosen Secretary.

On Motion

Resolved, That a Committee be appointed to draft By-Laws for the Regulation of a Medical Society, and that they report at the next meeting of the physicians, of which due notice will be given.

On Motion

Resolved, That Drs. Wendell, Dubois and Vanderveer constitute this Committee.

On Motion

Resolved, That an adjourned meeting be held, at the House of William Stephenson, in Brooklyn, on Saturday, March 2nd, at 2 o'clock, P. M., for the purpose of organizing a Society and electing officers.

On Motion

Resolved, That this Meeting adjourn, to meet again, at the time and place next above mentioned.

(Signed) Charles Ball
(Signed) Adrian Vanderveer,
Secretary.

MINUTES OF ADJOURNED MEETING, HELD MARCH 2, 1822

Pursuant to adjournment, the Physicians of the County of Kings met, at Brooklyn, March 2nd, 1822, at the house of William Stephenson (known as Auld Lang Syne Tavern). Present: Drs. Cornelius Low, Charles Ball, Matthew Wendell, John Carpenter, Joseph G. T. Hunt, Thomas W. Henry, William D. Creed, Francis H. Dubois and Adrian Vanderveer.

The object of the meeting being explained by the Chair, the Secretary was requested to read the minutes of the previous meeting, when it was,

On Motion

Resolved, That this Meeting proceed to the election of Officers by ballot, and that the Chairman and Secretary be authorized to announce the choice. On canvassing the votes the following gentlemen were found to be elected:

Cornelius Low, President.
Matthew Wendell, Vice-President.
Adrian Vanderveer, Secretary.
John Carpenter, Treasurer.

Whereupon the Committee, appointed at the last meeting, reported the following By-laws, for the regulation of the Society, which were considered by article and unanimously adopted.

(By-Laws adopted are inscribed in minutes at this place, but are omitted in the reading.)

After the By-Laws were read and approved of, it was requested that they should be transcribed, and that the Clerk of the County should be notified of the formation of a Society according to law.

When it was,

On Motion

Resolved, That the anniversary meeting be held in the Village of Brooklyn at the House of W. Stephenson (April 8, 1822) at 2 o'clock, P. M.

On Motion

Resolved, that this meeting adjourn.

(Signed) Cornelius Low,
President.
(Signed) Adrian Vanderveer,
Secretary.

MINUTES OF THE MEETING OF APRIL 8, 1822

At the Anniversary Meeting of the Society, held at the House of

W. Stephenson (known as Auld Lang Syne Tavern), Brooklyn, on Monday, 8th of April, 1822. Present: Drs. Low, Henry, Creed, Wendell, Ball, Hunt, Dubois, Carpenter, and Vanderveer. After the Minutes of the previous meeting and By-laws were read, it was,

On Motion

Resolved, That each person shall, previous to signing the By-Laws, exhibit to the President and Secretary satisfactory testimonials of his qualifications to practice Physic and Surgery.

The following persons, in due time, presented satisfactory testimonials, viz.:

	Licensed in
Cornelius Low	1782
Francis H. Dubois	1802
Matthew Wendell	1804
Joseph G. T. Hunt	1804
Charles Ball	July 4th, 1806
William D. Creed	February 23rd, 1809
John Carpenter	1812
	A diploma in
Andrian Vanderveer	April 7th, 1818
Thomas W. Henry	March 24th, 1820

On Motion

Resolved, That the Secretary notify the Physicians of the County of Kings, not recognized as members, of the existence of the Society, soliciting them to become members and requesting an answer, in 10 days from the date hereof.

On Motion

Resolved, That the members give in their votes for 3 Censors and 1 Delegate, in compliance with a law of the State. On canvassing the votes, the following was found to be the result.

Dr. Hunt	8 votes
Dr. Henry	8 votes
Dr. Ball	7 votes
Dr. Creed	2 votes
Dr. Vanderveer	1 vote
Dr. Carpenter	1 vote
Dr. Wendell	8 votes for Delegate
Dr. Hunt	1 vote

When it was announced that,

Drs. Hunt, Henry and Ball were appointed Censors, and Dr. Wendell, Delegate to the State Society.

On Motion

Resolved, That the Secretary order 100 copies of the Statutes regulating the Practice of Physic and Surgery in the State of New York, and the By-Laws of the Society, to be printed at the expense of the Society, and that each member be presented with 5.

On Motion

Resolved, That the Secretary frame a copy of certificate of Membership and cause 25 to be struck off on parchment.

On Motion

Resolved, That the next Meeting be held at the House of Simon Vorhees (known as the Van Buren Tavern), in Flatbush, at 2 o'clock P. M.

On Motion

Resolved, That this Meeting adjourn, *sine die.*

(Signed) Cornelius Low, President.
(Signed) Adrian Vanderveer, Secretary.

The first speaker is protean; he is a multiplex, a graduate of one of our great state universities, eminent in the Homeopathic branch of medicine, distinguished in his chosen specialty—ophthalmology—as an educator, as an administrator, and now a candidate for one of the highest positions in our system of government—the Commissioner of Health of the City of New York, Royal S. Copeland.

Hon. Royal S. Copeland, M.D.

IT IS an amazing thing to think that an institution of this sort has lived through four generations of human life.

I believe in the idea of living to be one hundred. There are thirty-five hundred men and women in the United States who are past one hundred years of age, a well-authenticated record—thirty-five hundred. There is no reason why the average person should not look forward to a much longer life than he enjoys at present.

I am the only practicing physician in the United States who has his own cemetery. I have a farm up in the country, in Rockland County, and on my farm there is an old-fashioned neighborhood cemetery, where, in the language of the natives, "forty head are buried." When I am in sad reminiscence I go up to my cemetery and read the inscriptions on the headstones. I presume I shall spend a good deal of my time there in the future. With two exceptions, everybody buried in my cemetery died under the age of fifty.

We looked at the old times as the "good old times." As a matter of fact, in the old days, when this Society was born, people used to go into their houses as soon as it got cold in the fall, nailed the windows, shut themselves in, and did not take a bath until the ice went out of the river in the spring, and died younger. As a matter of fact, you go back fifty years in this city and you will find that the average duration of life was forty-two years. It is now fifty-three years. There is no reason why it should not be seventy-five or eighty. One hundreds years ago, when this Society was born, the death rate in New York City was 30 per thousand. You go along fifty years and the death rate was 30 per thousand. No progress was made in the lowering of the death rate, or in the lengthening of human life, between the birth of this Society and fifty years ago. Practically all the great improvement which has taken place as regards the extension of life and the lowering of the death rate has taken place during the second period of life of this institution.

We had a Health Show in New York last fall, and it was my pleasure to take through that show Dr. Stephen Smith, then a young man of 99. He died a few days ago, 100 years of age. Dr. Smith was the first health commissioner of this city, and up to date I am the last one.

We had some figures prepared for the occasion, contrasting 1871 with 1921, and Dr. Smith was much interested to note the change in the fifty years from 1871 to last year.

At the top of the list were the deaths from smallpox—32 per thousand fifty years ago, 32 per thousand. I have some figures here showing that if we had the same death rate today for smallpox that we had when this organization was founded, with this population, that last year we would have had 45,000 deaths in New York City from smallpox, and we have had but one death in ten years. I was going to say that we haven't had a death in ten years, but last year somebody came here from Oakland, Cal., and died from smallpox. Now, that is a remarkable record, and it speaks well for the physicians of this city, because it isn't every city where we have such a low incidence of smallpox. In the City of Detroit last year—a city of a million souls as contrasted with ours of six million—there were 1,000 cases of smallpox. If they had 1,000 cases of smallpox in this city they would take the Health Commissioner out and hang him. We don't have smallpox in this city because our physicians have educated the public to the importance of vaccination.

Next on that list came malaria. Fifty years ago 27 per ten thousand of the population died of malaria—died of it. Now we never have a case, unless it is imported, and a death from malaria is practically unknown. The discovery of the mosquito as the carrier of the disease and the improvements made in the way of drainage of marshes has made this possible. Thirty-five hundred miles of ditches are maintained by the Board of Health in this city to drain marshes, but as a result of it malaria is practically unknown. So you could go on, right through the list. You know perfectly well fifty years ago about typhoid fever and what happened; but I think the finest page in the whole history of medicine is what has been done for the baby.

In 1891—thirty years ago—Mr. Nathan Straus began his fight for pure milk, and almost immediately he received the co-operation of the medical profession.

You know when they spent a lot of money to build a monument to Civic Virtue in City Hall Park, it made me mad. Now, I don't know anything about art—I know more about mythology—but if I were to choose a subject for Civic Virtue I would not take a "rough guy armed with a club," to quote my Chief. I would have a heroic figure of a man with his feet on Disease and Death, holding aloft a sweet-smiling baby. That would be a monument to Mr. Nathan Straus for what he has done.

In 1891, when Mr. Straus started his work in New York City, out of every thousand babies born 241 died before they were a year old. Just think of it! Let me visualize that for you. We had born in this city last year 137,000 babies. Put those babies shoulder to shoulder and they would make a row twenty-two miles long. Some babies! Thirty years ago—under the conditions of thirty years ago—five miles of those babies would have died.

Now, as a result of the education given to the mothers and to the community by the medical profession, plus a supply of pure milk, that death rate has gone down and down and down in thirty years from 241 per thousand last year to 71 per thousand, and in Brooklyn only 65 per thousand. You have the lowest death rate in Brooklyn of any city on the face of the earth. That is the most remarkable record that I know of in the whole history of medicine, and whereas the death rate 100 years ago in Brooklyn here was 30 per thousand and whereas 50 years ago it was 30 per thousand, last year it was only

11 per thousand—the lowest death rate the city has ever had; and the week before last the city's death rate went under 8 per thousand, the lowest we have ever had in our entire history.

Now, my friends, health commissioners receive undue credit. They get the glory and the nominations, but I am honest enough to say that the reason why New York City is the safest place to be born is because we have had here for one hundred years a progressive medical profession.

Now, I want to pay my tribute to this organization, to extend my congratulations, and to say to you that I hope as individuals you live to be a hundred, and that this organization will live to be a thousand, and that is the best I can do for you.

It is a matter of difficulty to know which the community thinks the least of, the doctor or the lawyer. Be that as it may, this occasion would be incomplete if the great learned profession, the Law, was not represented.

It is particularly fitting that the President of the Brooklyn Bar Association, who has endeared himself to us all, is here. Eminent in the law, he has achieved and encompassed a distinguished judicial career. Our good riend, former Justice Luke D. Stapleton.

Hon. LUKE D. STAPLETON, LL.D.

I do not know whether the community thinks less of the doctor or of the lawyer, but I have an abiding conviction which amounts to a moral certainty that if it were an intelligent public is would think infinitely more of the doctor than it would of the lawyer, because the doctor is engaged in a useful and an honorable profession. This, coming from the President of the Bar Association, is no idle tribute.

I accepted this invitation with great delight because it was held in this temple and I have a reverence for the men in professional life in America who have builded institutions like this.

If I were to withhold any congratulations tonight from Dr. Jennings in his administration of this Society, it would be because the numbers of those who participate in this remarkable function are not at all comparable to the quality of the gentlemen who are participating in it. All the great figures in the profession in Brooklyn are here, although the bolder among them are the men who have builded a shrine like this, consecrated to the medical profession. I never enter that temple, the Association of the Bar of The City of New York, that was built thirty years ago by great lawyers, whose income, as compared to the income of lawyers of today, was infinitesimal, that I do not worship the memory of those great figures who tried to dignify our profession. In the same manner and in the same degree I worship intensely the memory of those who have gone and the presence of those who are here who have consecrated this building to the cause of the noble practice of physic and surgery in the County of Kings.

The great difficulty, the distressing circumstance that I perceive today in the two so-called learned professions — and, of course, I always eliminate in discussing difficulties and failures and backsliding the most eminent profession of theology — is the tendency towards commercialism; and, ladies and gentlemen, the general let-down of the bars for admission to the practice of either law or of medicine would be most unfortunate and fraught with grave danger; and I know of no more fitting circumstance to clarify this occasion or epoch in our community than that we should be honored by the presence of the president of that great university who has insisted that both in law and in medicine the rules of admission should be so strict and the rules of graduation so complete, that no incompetent can ever have the degree of Columbia University. This making quickly scholars and professional men overnight, in my judgment, is destroying the morale of both professions. No man without a firm basis and strong education in the humanities, plus a three-year, and, more desirable, a four-year course in medicine, in my judgment, is equipped to practice either profession. Now that does not make for the exclusion of the poor because in this country any boy worthy to wear the mantle of either profession, any man who has the industry and the character and the energy, can graduate from the greatest universities in this country; and we must all stand, ladies and gentlemen, for the dignity of these professions; for the repression, if not the abolition of the commercial spirit in them. Money is so easy to make! A sausage vender can make more money than an eminent surgeon if he gets the right stand, or more money than an eminent lawyer; but when we practice those professions that have to do with the health and the property and the lives and the liberties of a democratic people, we should insist strenuously that those who would enter the temple to minister in these great enterprises should be equipped intellectually, developed mentally and absolutely pure, not in reputation, but in character; and tonight it is a gratifying experience to be present here among those who have clarified the medical profession in this community.

After a life of fifty years in this city formerly and now a borough, notwithstanding the allurements, notwithstanding the weather, notwithstanding professional engagements, I note around this hall, in order to celebrate the one hundredth anniversary of the foundation of this Society, are all the men in the medical profession of real quality are here tonight to honor your distinguished President.

It is of interest to know that this Society is the oldest scientific organization in the County of Kings, which establishes a natural link with the oldest educational institution in the Greater City—Columbia University, established as Kings College in 1754, sixty-eight years before we came into being.

There is another link, too, sentimental if you like, but, nevertheless, a strong bond. I have in my hand an account of the Exercises held at the laying of the cornerstone of this building in November, 1898. It rained that day; but that is not the link that I have in mind. The address of the day on that occasion was delivered by the then president of Columbia University, one of Brooklyn's most distinguished sons—Seth Low, and we are rarely honored and privileged to have on this occasion his renowned successor, under whose masterful and masterly guidance Columbia University has achieved a proud place among the educational institutions of the world—Nicholas Murray Butler.

Nicholas Murray Butler, LL.D.

Mr. President, Members of the Kings County Medical Society.
Ladies and Gentlemen:

You have offered me a privilege and an opportunity which I greatly value, in inviting me to share with Dr. Copeland and Judge Stapleton, the offering of congratulations and felicitations to this Society and to Brooklyn upon this notable anniversary.

Dr. Copeland encouraged us a little about living to be 100 years old, but after all he was only able to tell us of 3,500 of whom he had record in 100,000,000. I leave to you the computation of the individual's chance. This Society, however, has successfully weathered the storms of 100 years, and I share the Health Commissioner's hope that 1,000 years may find it in vigorous and fortunate occupation.

I was thinking as I sat here looking at that figure "1822" what a curiously different world it was when this Society was born. It was not only a world of dignified simplicity and charm, of those simple dwellings and taverns that we saw just now, but it was a world when what we now know as comfort was substantially lacking. One wonders how there could be such charming and classic and human faces as those that were thrown upon the screen in a world where discomfort, as we esteem it, was so common; indeed, so universal.

I recalled the fact, while Dr. Copeland was speaking, that when this Society was founded the friction match had not been invented: men were still striking light with flint and steel. It would not have been possible then to darken this room so quickly, or, rather, it would not have been possible to illuminate it so quickly as was done a moment ago.

We were without any of the physical comforts of home, transportation or occupation. Napoleon Bonaparte had only just died; James Monroe was President of the United States. It was another world of men, of ideas, of occupations, of interests, of understanding. What has come into the world in the interval has come in very largely along lines parallel to the occupations and the interests of this Society.

We are told that there has been no increase either in the physical power of the human body or in the power of the human mind in historic time, and, therefore, doubtless there has been none in the last one hundred years; but what has come in has been that extraordinary increase, so extraordinary that it staggers the imagination—that extraordinary increase in man's insight into nature; that multiplication of his knowledge, of the facts which we gather together and call science, that has enabled him, without increasing the power or the scope of his intelligence, to multiply manyfold those comforts which have now passed into the necessities of civilized existence.

The figures which Dr. Copeland gave were immensely impressive. He drew them quickly off the top of his official experience and his wide knowledge, and they tell a story which is familiar enough to the trained physician, but unfamiliar to most laymen, this extraordinary story which is the growth of preventive medicine.

Our whole conception of medicine has changed since this Society was established, and changed for the better, although very many among us have not appreciated it and taken advantage of it. It is a familiar saw that the Chinese retain their medical adviser to keep them well and take something from his stipend when they fall ill. That is the modern conception, and the scientific attitude, in principle at least, toward the medical profession. The man who waits to consult a physician until he is positively ill has not learned the lesson of the last one hundred years. The true place of the physician is guide, adviser, consultant and friend when you are well, and, before illness, preventable illness, has a chance to fasten upon you. To wait until there is an actual disturbance of those carefully balanced conditions which are health, and then to ask a physician quickly and successfully to restore that balance without giving him an opportunity to prevent that lack of balance from occurring, is not quite fair to him and does not make use, or allow him to make use, of the new knowledge and his new knowledge which is now available for the service of all of us.

Somewhere or other—I have forgotten where—in France, there is a monument to Pasteur, and it has on it a brief inscription in French which has always seemed to me since I first saw it one of the most impressive and accurate inscriptions that I have ever seen. It may be rendered freely in this way:

"To cure sometimes; to relieve often; to comfort always."

That is a rather fine summary of the opportunity of the physician armed with his wealth of experience and scientific knowledge.

We have, at least in medical teaching and training and in public health work, turned the emphasis from therapeutics to prevention, and that is going on more and more. If a thousand infants were permitted to become actively ill, the death rate would be very much greater than is the case when that illness is specifically prevented by controlling certain of its well-known causes.

The statistics which Dr. Copeland cited were exceptionally instructive to us because most of them were drawn from our own community. He might have added (had he had time he doubtless would have added) the exceptionally interesting story of the treatment of tuberculosis. A hundred years ago, and much less than a hundred years ago, a certainly diagnosed case of tuberculosis of the lung was accepted as substantially a sentence of death. During the past generation in Germany, in France, in England, and in the United States the success in securing arrests in this condition has been perfectly astounding, in very many cases without calling for either very expensive change of life or habitat or anything but the following of strictly laid-down regimen, carefully and accurately obeyed.

It seems to me, Mr. President, that, take it by and large, it is perhaps less important how many years we live than how many years we live in sound health. It would not be much use to drag out one hundred years of petulant invalidism. It is rather a satisfying thing to live through seventy or seventy-five, or, as in the case of some of our notable fellow-citizens, eighty and more years, in vigorous health of mind and body.

There is no substitute for health. There is nothing which can be accomplished of consequence in this world, save by some extraordinary genius, except on the basis of health. There is no possible use in trying to substitute scientific knowledge for health, interesting occupation for health, pecuniary gain for health. It is substituting dross for gold.

Health is a balance of various functions and influences. We know now that the healthiest of us, like those who are least afflicted, are surrounded on every side by enemies of health, and the function of him who would preserve health is to arm us to resist—to put us in position, not to avoid the conflict, because that is not possible—but to win when the conflict is forced upon us. Lower the vitality, reduce the resistance, and in rush the enemies at every weak spot, at every unguarded opening; and one weak spot in that broken balance, one weak spot after another is searched out until perhaps resistance breaks down and life comes to an end.

A physician is armed with tools, great powerful weapons. He is armed, first and chiefest, with the instinct of humanity, human feeling, service, sympathy. The physician, more than any man in a modern community, loses control of his own time. He may not agree with certainty to be anywhere at a given hour, for his professional instinct forbids him to refuse a call to relieve suffering. I hope the time will never come, members of this Society, when the test tube and the microscope with all their immense value will be permitted to displace the fundamental humane and human instincts which make the great physician. Given that, we have armed him with the most astounding array of scientific knowledge.

I mentioned Pasteur. I suppose, by and large—one speaks of these things cautiously, having in mind different fields of effort and different standards of judgment—I suppose that he is the greatest single benefactor the human race has ever known. Why? Because in the patient research of the laboratory he pursued the enemies of human health into the places of their origin; he studied their habits; he learned to know their enemies; and he laid before the world the results of his profound knowledge with all his marvelous power of exposition and interpretation. Pasteur and men like Lister—less famous but wonderfully serviceable to mankind—these men have done more for the happiness, the satisfaction and the working power of the human race than any other group of men in any field of activity who have ever come into it, from ancient Greece to our own day. And, Mr. President, that has happened, not only within the life of this Society, but in the latter half, almost the latter third, of that life; and no one dare foretell what increasing knowledge may add to the resources of the human race in dealing with the sufferings and the unhappiness of mankind. In consequence, this profession has come to have a very peculiar place in the mind of youth. I see that in my own experience. I do not refer now to its place in the public mind, or to its place in the public service. I speak of its place in the mind of youth. I have watched changes take place in the interests of the undergraduate during forty years. Forty years ago in this country the highest type of undergraduate was almost certain to select the profession of teaching—scholarship. Twenty-five years ago he was almost equally certain to select law. For the last five to ten years he has been quite likely to select medicine. This is a very interesting change. I do not attempt wholly to account for it. I think it is partly due to the feeling that medicine gives an opportunity to respond with the fullness and ardency of the young nature to the call for service; partly to the fact that the youth knows now that he can make that response to the call to service in effective terms because of the instruments with which he is armed. At all events, that seems to me to be the fact; a very promising fact for our public health and for our public service. As a result of this, the preparation for the practice of medicine has become an enormously expensive undertaking. We must not shut our eyes to that fact. I sometimes wonder whether public opinion will indefinitely sustain that expense. You cannot prepare men, following Judge Stapleton's very profound remarks in this regard, for this great service hastily; you cannot prepare them in mobs. You must prepare them in small groups and as individuals.

The day has gone by when you can take 100 or 200 men into a clinic with any advantage whatever. One hundred and fifty trained surgeons may sit and watch a difficult or delicate operation and know all about it, but one hundred and fifty students of surgery cannot do it. You must multiply the number of your teachers; you must multiply the number of your clinics; you must multiply the number of your laboratories; you must lengthen the period of study. You must insist upon practical contact with the realities of medicine at every point, and you must be sure that all this is adequately housed and staffed and provided with illustrative and museum material.

All this has become a very expensive undertaking. There was a time when sound preparation for engineering was the most costly of all university undertakings, but engineering education, even of the highest type, has now been far surpassed in cost by medicine. The community, the universities, the medical societies, are confronted with that fact, and they must be prepared to deal with it.

We are sometimes told (and this is another point suggested to me by the very admirable and eloquent speech of Judge Stapleton) that it is undemocratic to insist upon high standards of professional training, and for admission to the practice of the profession. I deny it *in toto*. A democracy is under no obligation to be served by ignoramuses. It is entitled to the best possible service, and it is only by the best possible service that it can take steps to protect its interests and its health. That argument is really beneath contempt, and I ought perhaps not to have mentioned it in this presence, because it is so unworthy.

I ought not to close what I am saying in this presence without a word concerning the state of public opinion in various parts of the United States on the subject of medicine.

There are a great many curious currents running in America. Some of them ought to be in a museum, and some of them, and very earnest and very forcible currents, are profoundly antagonistic to scientific medicine. They find expression in legislative acts, in interpretations of the word Medicine, which are oddly askew from the standpoint of the scientific student of medicine; but, nevertheless, they exist.

Those statistics which Dr. Copeland gave about smallpox could not be given for some communities in this country, should an epidemic break out, where vaccination is forbidden in any compulsory form. There would have to be a thousand or two thousand or three thousand deaths—a horrible sacrifice—before those communities would open their eyes to the fact. You should remember that people, from time to time, by gift or by will, actually establish permanent funds to prevent medicine from advancing, so great is their opposition to scientific medicine. There is such a fund in one of the western states, the name of which I shall not mention, and members of the legislature in that state tell me that the first bill introduced every second year when the legislature meets, relates to that topic, because the representatives of that fund depend for their stipend upon actively operating under the terms of the trust.

We have in this state a somewhat similar fund, and every winter the medical faculties of our universities must be represented at Albany to stop legislation to prevent them from doing their work. Money has been left for that purpose, and vigorous and astute ladies and gentlemen who are connected with the material product of that fund, give great attention to the subject.

These are some of the side issues of medicine, but they are very real and very important. If you permit one of these waves of ignorant sentimentality to sweep over a community and make its way to the statute book, it may well cost this state and this country tens of thousands of human lives before you get it off. It is not rational, it is not scientific, it is not common sense to run those great risks.

The leaders in the education of public opinion must, of course, be the members of the medical profession. They are busy men, oppressed with cares, carrying away from the bedside or the hospital a dozen problems which at times seem almost insoluble, but on which so much depends, even life itself. It is difficult to ask them to do anything more, but in your corporate capacity in this and other organizations is the opportunity in season and out of season, not only from 1822, but from 1922 and from 2022, to keep before the minds of the American people the essential facts as to the scientific and humane basis of medicine, as to what preventive medicine means, as to what public health involves, and how the whole fabric, the economic, intellectual and social fabric, rests on health. Imagine a community of one hundred millions of human beings diseased; try to visualize their civilization; imagine their art, their literature, their political and their social occupations, their public debates. It is impossible. It staggers the imagination.

On the other hand, as physical health—with that inducement, to say the least, to mental health and moral health which accompanies it—as physical health extends and multiplies, as the physician substitutes prevention for therapeutics and gains a larger knowledge of the cure of disease so that therapeutics is safer and more accurate, so you multiply year by year the satisfaction and comfort of the community that you serve. I can say no more, Mr. President and gentlemen, than to wish for this Society through another century a succession of such noble men and noble personalities and so steady an advance in public service and scientific knowledge, as have marked the century whose close we gladly celebrate tonight.

After Dr. Butler had finished, at the request of the Chair, the members of the Society arose and remained standing for one minute, as a tribute of respect and affection for those who had passed on during the five score years of the Society's life.

The guests and friends then arose and all remained standing while the Benediction was pronounced by Dr. John F. Carson.

Rev. John F. Carson, D.D., LL.D.

Our Father, God Almighty, let Thy Benediction rest upon this Society; upon Your servants. Cause Thy blessings to fall upon this consecrated ministry of healing the sick and curing the conditions that may cause sickness. Let Thy wisdom guide them; let Thy love control and bless them, and may Thy grace and mercy and peace abide with us forever. Amen!

MEDICAL BOOK NEWS

Edited by JAMES M. WINFIELD, M. D.

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this Department, 1313 Bedford Ave., Brooklyn, New York

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What Is Social Case Work?

WHAT IS SOCIAL CASE WORK? An Introductory Description. By Mary E. Richmond, Director, Charity Organization Department, Russell Sage Foundation. New York, Russell Sage Foundation. 1922. 268 pages. 12mo. Cloth, $1.00.

This book, written by the Director of the Charity Organization Department of the Russell Sage Foundation, sets forth very clearly the principles and practice of social case work.

The social worker's "case" is the particular social situation or problem — not the person concerned, who is called the "client" (sometimes "applicant").

The art of social case work is the art of discovering and assuring to the individual the best possible social relations. "Society is best ordered when it best promotes the personality of its members" (Maciver), and, conversely, personality is achieved in no other way than through right relations to society.

The relation of case work to other forms of social work is seen when we define provinces and functions: case work aims to develop personality and fortify will and purpose by effecting better adjustment between individuals and their social environment; group work serves personality by dealing with people face to face but not individually; social reform serves personality by effecting mass betterment through legislation; while social research serves personality by making discoveries and re-interpreting known facts for the use of the other forms of social work.

Case workers, then, are what Samuel Butler called "straighteners" — persons with a special gift for smoothing out the tangles of complex human relationships.

The author very truly says that there was case work long before social workers began to formulate its principles and methods. Its modern developments along scientific lines obviously had its inception in the work of Frédéric Ozanam, founder of the Society of Saint Vincent de Paul.

Despite the author's insistence upon permanent results as the criteria of success, there is much in the book which unwittingly confirms independent observations and conclusions that this form of social work tends to be effective only in so far as the workers can continue supervisory contacts, since they have to deal so largely with the moron group, and that the development of personality which is stressed is chiefly notable in the persons of the workers themselves.

A. C. Jacobs.

Bi-Sexual Love

From the psychologist's standpoint, "Bi-Sexual Love" may be a wonderful revelation, but to the average physician, it will reveal but a series of stories, concerning peoples who are commonly called perverts.

The interpretation of hate for love, serving as a mask for these psychological defects, may be true, but such an interpretation may still prove to be false.

It is our opinion that this work will prove of greater interest to psychologists than to the Medical Profession.

"One"

The volume before us is the story of peoples, who are not representative, but rather form a small part of our society. If it is the author's aim to make a study of jealousy and to show its psychological effect, we must conclude she has failed. If it is to point out the difficulties of married life, she has again failed, for the characters are overdrawn, and, as before said, not representative.

Tuberkulose-Bibliothek

The pamphlets published under the supervision of Professor Doctor Lydia Rabinovitch, assume the form of monographs covering subdivisions into which the subject of tuberculosis naturally divides itself. Thus we have "The Roentgen Ray and Tuberculosis," by Doctor Manfred Fraenkel, "Climatology and Tuberculosis" by Doctor Bernhard Kurt Voigt. "The X-Ray Diagnoses of Tuberculous Conditions" by Doctor Max Cohn, "A Critical Review of the Friedmann Cure" by Ulrici, Grass and Meyer, and "The Laws in Force in the German

Republic Relative to Prophylaxes and Prevention of Tuberculosis."

While all the pamphlets are exceedingly interesting, the critical review of the X-Ray findings, by Doctor Max Cohn, is unusually instructive. His plea is for an early recognition of the disease and he demonstrates by means of X-Ray plates its feasibility. His contribution should prove helpful.

The Friedmann cure is reviewed, simply to be condemned. It is the opinion of the reviewers that none of the virtues claimed for it have been substantiated. They likewise hold out no promise for the future.

The laws regulating the prevention of the disease are in no way different from those in force in this country. They have, however, the great advantage, in that they are national in their Scope, and not dependent upon haphazard State legislation, such as is in vogue in the United States. They are, therefore, more effectively and uniformly carried out.

Roentgen Ray therapy and heliotherapy are still in their infancy. Then enthusiasts claim much for both. Only time will help us to evaluate them properly.

A. Moss.

Innere Sekretion

INNERE SEKRETION. IHRE PHYSIOLOGISCHEN GRUNDLAGEN UND IHRE BEDEUTUNG FUER DIE PATHOLOGIE. Von Prof. Dr. Artur Biedl. 4. Auflage. Band I, 1 Teil und Band III, Literatur. Berlin & Wien, Urban & Schwarzenberg, 1922. 8 vo. Paper, Mk 540, each part.

Professor Biedl's fourth edition of his classical work, which has long been accepted as an authority upon the subject of Endocrinology, will be welcomed by all students of the internal secretions.

Part 1 of the first volume is devoted to a general introduction which includes a discussion of constitutional biology with a consideration of the various factors determining constitution and methods of investigations of these factors. An exhaustive study of the thyroid and parathyroid glands is undertaken in the last two hundred pages. Part III consists of 480 pages of bibliography with not a single page of text; some of the references are as late as 1921. The stupendous amount of labor necessary to check up such a colossal array of references can be appreciated only by those who have had occasion to perform similar work. Professor Biedl is to be congratulated for undertaking such a tremendous task and for correlating the latest authoritative data upon a subject with which he is so thoroughly acquainted.

Murray B. Gordon.

Algunos Aspectos de la Psicologia del Nino

ALGUNOS ASPECTOS DE LA PSICOLOGIA DEL NINO. Por Doctor Honorio F. Delgado. Lima, La Opinion Nacional, 1922. 82 pages. 8vo.

While Delgado's work is written in Spanish and published in Lima, Peru, the preface is in English by Dr. William A. White, of Washington, D. C., who agrees with the writer in the tone and sense of his text, in that the lines of development of personality receive their first direction in the early years of life, and that this is a very important period.

Delgado believes that the education of today has deficiencies which only the institution of psychoanalysis of the child can remedy. For this purpose it will be necessary to create a new section of medical inspection of school children, and to organize the theoretical and training of the teachers. There can be no doubt in the mind of anyone who has given this subject much thought that there is a real and present need for some method of estimating the mental age and capacity of the school child, not only when he enters school but from time to time throughout his school life to keep check on his mental development. Therefore such works as the one here considered must be welcomed as helping toward that end.

W. H. Donnelly.

BOOKS RECEIVED.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgement of receipt has been made in this column.

A TEXT-BOOK OF PHYSIOLOGY FOR MEDICAL STUDENTS AND PHYSICIANS. By William H. Howell, Ph.D., M.D., Sc.D., LL.D. Eighth Edition, thoroughly revised. Philadelphia and London, W. B. Saunders Company, 1922. 1053 pages, 308 illustrations. 8vo. Cloth, $6.50.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. N. Dorland, A.M., M.D., F.A.C.S. Eleventh Edition, revised and enlarged. Philadelphia and London, W. B. Saunders Company, 1922. 1229 pages, 338 illustrations. 8vo. Flexible Leather, $7.00; thumb index, $8.00.

AN ELEMENTARY MANUAL OF PHYSIOLOGY. By Russell Burton-Opitz, S.M., M.D., Ph.D. Philadelphia and London, W. B. Saunders Company, 1922. 411 pages with 147 illustrations. 12mo. Cloth, $2.50.

THE EVOLUTION OF PUBLIC HEALTH NURSING. By Annie M. Brainard, Lecturer on Administration of Public Health Nursing in Western Reserve University. Philadelphia and London, W. B. Saunders Company, 1922. 454 pages, illustrated. 12mo. Cloth, $3.00.

A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY. By Torald Sollmann, M.D. Second Edition, entirely reset. Philadelphia and London, W. B. Saunders Company, 1922. 1066 pages. 8vo. Cloth, $7.00.

THE TREATMENT OF FRACTURES, with notes on a few common dislocations. By Charles Locke Scudder, M.D. Ninth Edition, revised. Philadelphia and London, W. B. Saunders Company, 1922. 749 pages, with 1252 illustrations. 8vo. Cloth, $8.50.

PERSONAL HYGIENE APPLIED. By Jesse Feiring Williams, A.B., M.D., Philadelphia and London, W. B. Saunders Company, 1922. 412 pages, illustrated. 12mo. Cloth, $2.50.

AN OUTLINE OF THE PIRQUET SYSTEM OF NUTRITION. By Dr. Clemens Pirquet. Philadelphia and London, W. B. Saunders Company, 1922. 96 pages. 16mo. Cloth, $2.00.

LECTURES ON DIETETICS. By Max Einhorn, M.D. Philadelphia and London, W. B. Saunders Company, 1922. 244 pages. 12mo. Cloth, $2.25.

CLINICAL MEDICINE. Tuesday Clinics at the Johns Hopkins Hospital. By Lewellys F. Barker, M.D., LL.D. Philadelphia and London, W. B. Saunders Company, 1922. 617 pages, illustrated. 8vo. Cloth, $7.00.

RESPIRATION. By J. S. Haldane, M.D., LL.D., F.R.S. New Haven, Yale University Press, 1922. 427 pages, illustrated. 8vo. Cloth, $6.00.

JUST NERVES. By Austen Fox Riggs, M.D. Boston and New York, Houghton Mifflin Company, 1922. 87 pages. 12mo. Boards, 90 cents.

PULMONARY TUBERCULOSIS. By Maurice Fishberg, M.D. Third Edition, revised and enlarged. Philadelphia and New York, Lea & Febiger, 1922. 891 pages, illustrated with 129 engravings and 28 plates. 8vo. Cloth, $8.50.

LESSONS IN PATHOLOGICAL HISTOLOGY. By Gustave Roussy and Ivan Bertrand. Translated from the Second French edition by Joseph McFarland, M.D., Sc.D. Philadelphia and New York, Lea & Febiger, 1922. 278 pages, illustrated with 124 engravings. 12mo. Cloth, $3.25.

THE CAUSES OF HEART FAILURE. By William Henry Robey, M.D. Cambridge, Harvard University Press, 1922. 45 pages. 12mo. Cloth, $1.00 (Harvard Health Talks).

SYPHILIS. By Burton Peter Thom, M.D. Philadelphia and New York, Lea & Febiger, 1922. 525 pages, illustrated with 69 engravings. 8vo. Cloth, $5.50.

DISEASES OF WOMEN. By Harry Sturgeon Crossen, M.D., F.A.C.S. Fifth edition, revised and enlarged. St. Louis, C. V. Mosby Company, 1922. 1005 pages, with 934 engravings, including one color plate. 8vo. Cloth, $10.00.

ANIMAL PARASITES AND HUMAN DISEASE. By Asa C. Chandler, M.S., Ph.D. Second edition, revised. New York, John Wiley & Sons, Inc., 1922. 572 pages, 254 illustrations. 8vo. Cloth, $4.50.

THE EVOLUTION OF MAN. A Series of Lectures delivered before the Yale Chapter of the Sigma Xi during the Academic Year 1921-1922 by Richard Swann Lull and others. New Haven, Yale University Press, 1922. 202 pages, illustrated. 8vo. Cloth, $3.00.

THE FEMALE-IMPERSONATORS. A Sequel to the Autobiography of an Androgyne. By Ralph Werther-Jennie June ("Earl Lind"). Edited with introduction by Alfred W. Herzog, Ph.B., A.M., M.D. New York, The Medico-Legal Journal, 1922. 295 pages, illustrated. 12mo. Cloth, $3.00.

NERVES AND PERSONAL POWER. Some Principles of Psychology as Applied to Conduct and Health. By D. Madougall King, M.B. New York and Chicago, Fleming H. Revell Company, 1922. 311 pages. 12mo. Cloth, $2.00.

LIFE: HOW IT COMES. A Child's Book of Elementary Biology. By Stephen Reid-Heyman. New York, Robert M. McBride & Company, 1922. 174 pages, illustrated. 12mo. Cloth, $1.50.

SURGICAL CLINICS OF NORTH AMERICA. Published bi-monthly by the W. B. Saunders Company, Philadelphia and London. Volume 2, Number 5, October, 1922 (Southern Number). 330 pages, 126 illustrations. 8vo. Paper (price per year, 6 nos.), $12.00.

BRAIN ABSCESS: ITS SURGICAL PATHOLOGY AND OPERATIVE TECHNIC. By Wells P. Eagleton, M.D. New York, The MacMillan Company, 1922. 297 pages, illustrated, plates. 8vo. Cloth, $7.00.

ESSENTIALS OF ZOOLOGY for Students of Medicine and First Year Students of Science. By Alexander Meek, D.Sc., Professor of Zoology, University of Durham. London and New York, Longmans, Green & Co., 1922. 325 pages, with 145 illustrations. 8vo. Cloth, $3.50.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF LABORATORY METHODS. By Charles E. Simon, B.A., M.D. Tenth edition, enlarged and thoroughly revised. Philadelphia and New York, Lea & Febiger, 1922. 1125 pages, illustrated with 233 engravings and 23 plates. 8vo. Cloth, $9.00